

# JOURNAL

OF THE

## • AMERICAN VETERINARY • MEDICAL ASSOCIATION •

### In This Issue

#### GENERAL ARTICLES

High Pressure Sprays in Control of the Sheep Tick ( <i>Melophagus Ovinus</i> Linn)— <i>Lee Seghetti and B. D. Firehammer</i> .....	447
United States Civil Defense (A Book Review) .....	450
The Prediction of Success in Veterinary Medicine at Michigan State College— <i>Ross W. Matteson</i> .....	452

#### SURGERY AND OBSTETRICS

The Ratio of Male and Female Calves Produced by Natural Breeding and Artificial Insemination— <i>Helmut Kafka</i> .....	454
Cecostomy in the Horse— <i>D. E. Jasper and P. T. Cupps</i> .....	456

#### CLINICAL DATA

Congenital Cerebellar Hypoplasia in a Holstein-Friesian Calf— <i>Wayne A. Anderson and C. L. Davis</i> .....	460
Aureomycin Ointment Used in Infections of the Eye, Ear, and Skin in Dogs and Cats— <i>Herbert F. Harms, Herbert F. Harms, Jr., and George R. Harms</i> .....	462
Diamond Skin Disease (Chronic Erysipelas) in a Turkey— <i>E. H. Peterson and T. A. Hymas</i> .....	465
Mixed Sulfonamides (Merameth) for Enteritis-Pneumonia Syndrome in Swine— <i>R. H. Walker and E. V. Edmonds</i> .....	467
Removal of the Fringed Tapeworm from Sheep— <i>J. F. Ryff, Jo Browne, H. L. Stoddard, and Ralph F. Honess</i> .....	471

#### NUTRITION

Wheat Poisoning in Cattle .....	475
---------------------------------	-----

#### EDITORIAL

Hemolytic Maladies of Newborn Animals .....	477		
<i>Surgery and Obstetrics</i> .....	454	<i>Editorial</i> .....	477
<i>Clinical Data</i> .....	459	<i>Current Literature</i> .....	479
<i>Nutrition</i> .....	475	<i>The News</i> .....	483

*AVMA Report, ad page 12; Coming Meetings, ad page 20*

*(Contents continued on ad pages 2 and 4)*



# The Century's Third

## Ten Years

### III. Commercial Group Upholds Veterinary Education

The 1920's, or postwar decade, have to be set down as an uncertain period for the veterinary profession: declining enrollment of veterinary students, collegiate insufficiency, groping for practice among undeveloped fields (bovine, porcine, avian, canine), enormous national wealth, growing livestock industry, and abundant animal plagues.

In the face of these facts, there was more than now meets the eye in the resolution of certain commercial groups to discriminate between competent and incompetent veterinary medicine on American farms by confining the use of their research and their products to college-trained personnel, exclusively.

*The decision of the 1920's to make a comprehensive distinction between the clinical work of the college graduate and the unprofessional practices of substandard commercialism had the far-reaching effect of giving American veterinary medicine a high rating around the world.*

(To be continued)

THE  
**Corn States Serum Company**  
OMAHA, NEBRASKA



*Norden*

# why do so many prefer **Sulfatose (Improved)?**

(Patent Pending)

There is a host of reasons why so many prefer Sulfatose (Improved) . . . . and show their preference by re-ordering time and time again. The neutrality of Sulfatose (Improved), pH 7.0-7.5, is "just what the doctor ordered" for reducing chemical reaction irritations. The versatility of Sulfatose (Improved) makes it ideal for either large or small animal practitioners. The stability of Sulfatose (Improved) keeps it always ready for use. Just try Sulfatose (Improved) keeps it always ready for use. Just try Sulfatose (Improved) keeps it always prove to yourself . . . there is no sulfa solution like Sulfatose (Improved) !

**NORDEN LABORATORIES**  
"The Mark  
**LINCOLN**  *of Quality*"  
**NEBRASKA**

# Journal of the American Veterinary Medical Association

## CONTENTS

(Continued from Cover)

### SURGERY AND OBSTETRICS

Transplanting Mammalian Ova .....	455
Teat Surgery .....	455
Infertility in Dairy Cattle .....	458
Pig Hatcheries .....	458
Hormones for Cattle .....	458

### CLINICAL DATA

Antibiotics in Viral Infections .....	459
Control Ring Test Antigen .....	459
The Ophthalmoscope .....	461
Bovine Engorgements .....	464
The New York State Plan for Rabies Control .....	464
Treating Mink Diseases .....	464
Rumen Microorganisms .....	466
Laboratory Techniques for Practicing Veterinarians .....	469
Placebos .....	469
Animal Allergy .....	469
Causes of Baby Pig Troubles .....	470
Histoplasmosis .....	470
Canine Giardiasis Treated with Atebrin .....	470
Iodine Poisoning .....	470
Mucoid Brucella Vaccination .....	473
Brucellosis and Its Relationship to Sanitary Milk Control .....	473
Brucellosis Picture Is Brighter .....	473
Cooperation of Veterinarians Essential .....	473
Tracing Tuberculous Cattle from Postmortem Findings .....	474
Avian Tuberculosis in Swine .....	474

OFFICERS: W. M. Coffee, *President*; John R. Wells, *President-Elect*; J. G. Hardenbergh, *Executive Secretary*; C. D. Van Houweling, *Assistant Executive Secretary*; W. A. Young, *Treasurer*.

EXECUTIVE BOARD: W. G. Brock, *Chairman*; A. L. MacNabb, *1st District*; S. F. Scheidt, *2nd District*; O. Norling-Christensen, *3rd District*; R. S. Sugg, *4th District*; C. F. Schlotthauer, *5th District*; N. J. Miller, *6th District*; E. E. Wegner, *7th District*; W. G. Brock, *8th District*; Edwin Laitinen, *9th District*; Louis H. LaFond, *10th District*; W. M. Coffee, *ex officio*; John R. Wells, *ex officio*; C. P. Zupp, Sr., *ex officio*.

BOARD OF GOVERNORS: W. G. Brock, *Chairman*; W. M. Coffee, John R. Wells (Committee on Journal).

EDITORIAL STAFF: L. A. Merillat, *Editor Emeritus*; J. G. Hardenbergh, *Managing Editor*; R. C. Klussendorf, *Editor-in-Chief*; Helen S. Bayless, *Assistant Editor and Advertising Manager*. Associate Editors: J. A. Campbell, J. N. Campbell, L. R. Davenport, Geo. R. Fowler, L. J. Goss, G. W. Jensen, E. Jungherr, Brig. Gen. J. A. McCallam, L. T. Railsback, R. E. Rebrassier, W. H. Risner.

FOREIGN LANGUAGE ABSTRACTING: Major Kenneth F. Burns, V. C. (Japanese); Ernest Froelich (Yugoslav); Chas. H. Haasjes (Dutch); Robert E. Habel (Russian); Rue Jensen (German); A. G. Karlson (Scandinavian); Ching-Sheng Lo (Chinese).

\$7.50 per annum

Foreign \$8.00; Canada \$8.00

Single Copies 75 cts. prepaid in U. S.

Published monthly at 600 S. Michigan Ave., Chicago, Ill., by the American Veterinary Medical Association. Entered as second class matter August 10, 1932, at the Post Office at Chicago, Illinois, under the act of March 3, 1879. Additional entry at Manila, Ill. Accrued fine for mailing at special rate of postage provided for in Section 538, act of February 28, 1925, authorized August 10, 1932. Reproduction of any part of this publication is prohibited unless special permission is given. Permission will be given if the purpose seems justifiable and, in signed articles, if the rights or requests of author are not violated thereby. Reprints should be ordered in advance. Prices will be quoted after publication. Please give prompt notice of change of address, giving both old and new. Advise whether the change is temporary or permanent. Address all correspondence to American Veterinary Medical Association.



first and only...

SENSATIONAL NEW SYSTEMIC DEODORIZER

# CHLORODOR

(CHLOROPHYLL-FRACTION TABLETS, PITMAN-MOORE)

**"Eliminates most objectionable body and mouth odors  
in dogs within 18 to 24 hours"<sup>1</sup>**

Recent investigations<sup>1</sup> on humans have convincingly demonstrated the capacity of orally administered chlorophyll to successfully neutralize body perspiration, mouth and breath odors.

Now, using Chlorodor (Pitman-Moore) Tablets by mouth, Serling<sup>2</sup> has found that B.O., halitosis and rectal odor can be abolished in most pet animals—within a few hours.

Chlorodor, the product used in the original tests, is the first and only product containing a specially processed chlorophyll which has been made available to the veterinary profession.

Chlorodor contains Nature's deodorant—the substance which has received so much favorable notice in the scientific and lay press.

*Write for concise, descriptive literature on this well tolerated,  
effective systemic deodorizer.*

**Chlorodor (Pitman-Moore) is supplied in 100 mg. Tablets. Bottles of 100.**

1. Westcott, F. H.: New York State J. M., 50:498 (Mar. 19 1950).

2. Serling, M. E.: Control of Body and Breath Odors with Chlorophyll Fractions, Vet. Med., Vol. XIV, No. 7, July 1950.

**PITMAN-MOORE COMPANY**

PHARMACEUTICAL AND BIOLOGICAL CHEMISTS  
DIVISION OF ALLIED LABORATORIES INC., INDIANAPOLIS 6, INDIANA

## CONTENTS—Continued

Progress in Tuberculosis Eradication .....	474
Brucellosis Revaccination .....	474

### NUTRITION

Iron Metabolism and Erythrocyte Formation .....	476
Thyroxine Feeding .....	476

### EDITORIAL

Benjamin J. Killham .....	478
Overcrowding .....	478

### CURRENT LITERATURE

#### ABSTRACTS

Leptospirosis in a Dog, 479; Enzootic Abortion in Goats, 479; Swineherd's Disease (Leptospirosis) in Israel, 479; A Survey of Scandinavian Literature—Deficiency Causes Paralysis in Pigs, Newcastle Disease in Sweden, Pullorum Variants, Neurolymphomatosis in a Swan, Fox Encephalitis, Actinomycosis in Silver Fox, Fox Rickets and Tetany, Color Inheritance in Polar Foxes, Wild Animals and Public Health Pruritus, Intravital Staining, Biological Agents and Bacteriological Cultures, Foot-and-Mouth Disease Hemagglutination Test, Dourine Test, Tumors of the Pancreas, 479.

#### BOOKS AND REPORTS

Evaluation of Bull Semen, 480; Diseases of Swine, 481; Parkinson's Disease, 481; The Ecology of Animals, 481; Physician's Handbook, 481; Hard Pad Disease, 482; Correction, 482; How To Raise a Puppy, 482; Terramycin, 482; We Pass This Way, 482; Received But Not Reviewed, 483.

#### REVIEWS OF VETERINARY MEDICAL FILMS

Skin Antiseptics—Evaluation of Effectiveness of Some Widely Employed Antiseptics, 483; Turkey Diseases—Miscellaneous Diseases and Conditions Affecting Turkeys, 483.

### THE NEWS

AVMA Committee Maps Drive for Research Funds .....	484
Hearings Requested for Advisory Committees .....	484
Emergency Advisory Committee Meets .....	484
National Advisory Committee to Selective Service Appointed .....	484
Annual Meeting of N.V.M.A. in Wales .....	485
Alumni Group Meetings at Miami Beach .....	485
Student Enrollment for the Academic Year 1950-1951 .....	486
Student Chapter Activities .....	487
Women's Auxiliary .....	488
U. S. Government .....	489
Applications .....	490
Among the States and Provinces .....	492
Foreign News .....	501
Veterinary Military Service .....	503
Marriages .....	503
Births .....	503
Deaths .....	503

### MISCELLANEOUS

Who is Moving?, 449; Veterinarians and Poultry Work, 449; The Assets of General Practice, 453, <i>Watch Your English and Ours and Coming Meetings .....</i>	<i>ad page 20</i>
--	-------------------



## the heart of balanced feeding . . .

A food such as Gaines Meal is no mere filler . . . but a product carefully and scientifically formulated to provide adequate amounts of every food element known to be needed by a normal dog . . . plus an average of vitamins and key minerals sufficient to offset the nutritive deficiencies of meat and other foods commonly added for increased palatability.

So make full use of the nutritional balance Gaines is designed to provide . . . and of the practical advantages offered by meal . . . look to Gaines Meal as the heart of normal, balanced feeding.

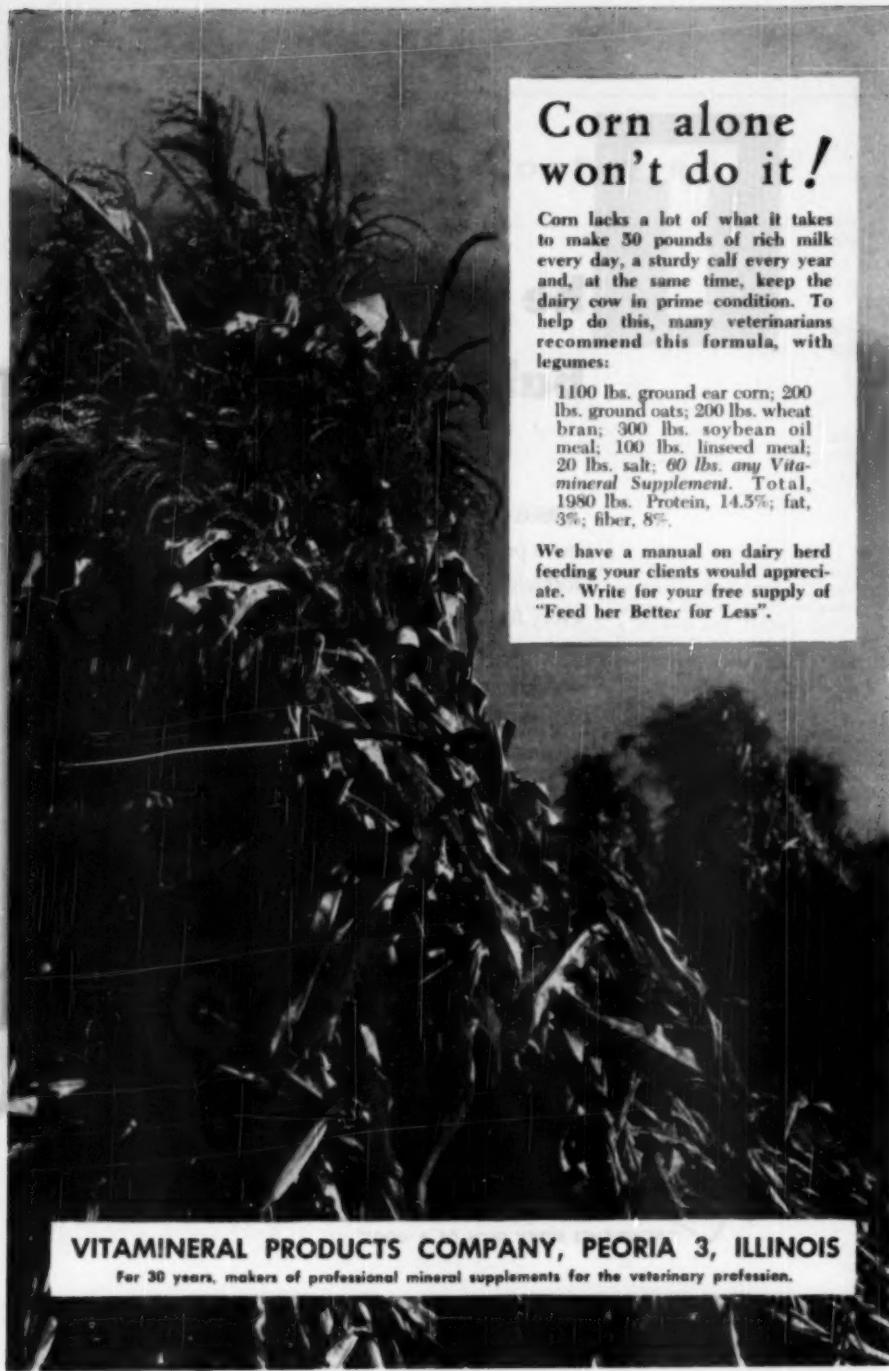
Gaines  
Meal  
for all dogs



"NOURISHES EVERY INCH OF A DOG"

Copyright 1948 by General Foods Corp.

A Product of General Foods



## Corn alone won't do it!

Corn lacks a lot of what it takes to make 50 pounds of rich milk every day, a sturdy calf every year and, at the same time, keep the dairy cow in prime condition. To help do this, many veterinarians recommend this formula, with legumes:

1100 lbs. ground ear corn; 200 lbs. ground oats; 200 lbs. wheat bran; 300 lbs. soybean oil meal; 100 lbs. linseed meal; 20 lbs. salt; **60 lbs. any Vitamineral Supplement.** Total, 1980 lbs. Protein, 14.5%; fat, 3%; fiber, 8%.

We have a manual on dairy herd feeding your clients would appreciate. Write for your free supply of "Feed her Better for Less".

**VITAMINERAL PRODUCTS COMPANY, PEORIA 3, ILLINOIS**

For 30 years, makers of professional mineral supplements for the veterinary profession.

# KO'S YOUR BOOKKEEPING PROBLEMS WITH HISTACOUNT

More doctors use "Histacount" than any other system. It eliminates all bookkeeping and tax problems; gives your financial status at a glance... what you earn, collect and spend. Enjoy simple, accurate, complete bookkeeping with "Histacount".

## • REGULAR EDITION •

More than 400 pages for daily, monthly and yearly entries... special forms for taxes. Cloth cover, monthly indexes for easy reference. Loose-leaf or plastic-bound. (Refills for Loose-leaf - \$3.75)      \$7.25

## LIMITED PRACTICE SYSTEM

Same as the regular system but designed to care for practices limited to 90 patients per week. The finest little system of them all. Complete instructions included. Plastic-bound only.

\$4.50



**PROFESSIONAL**  
PRINTING COMPANY, INC.  
202 TILLARY ST. BROOKLYN 1, N.Y.

Gentlemen: Send me at once:  
 Regular Bookkeeping System @ \$7.25      8-12-0  
 Loose-leaf       Plastic-bound  
 Refill for the Loose-leaf @ \$3.75  
 Limited Practice System @ \$4.50  
Send       Prepaid       C.O.D.  
 FREE descriptive booklet

Dr. \_\_\_\_\_

Address \_\_\_\_\_

# COSMO Cutting Unit

## with Power Control

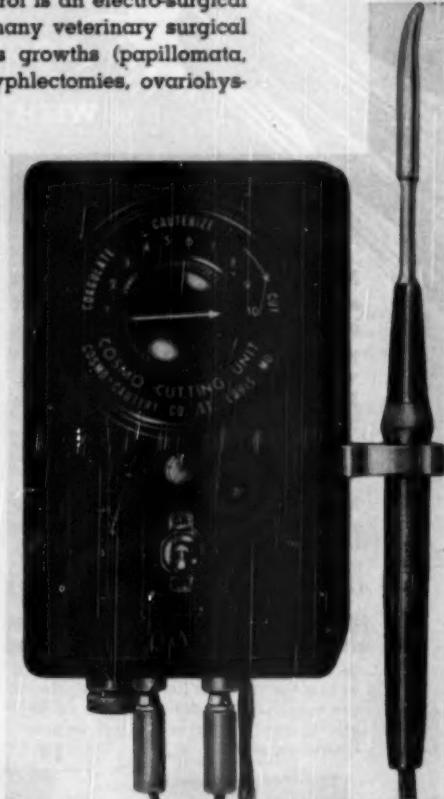
The Cosmo Cutting Unit with power control is an electro-surgical instrument affording easier technics in many veterinary surgical procedures such as removal of various growths (papillomata, mammary tumors, polyps, cysts, etc.), typhlectomies, ovariohysterectomies, and visceral surgery.

Because of its simplicity of operation and full range of power, it is a most versatile instrument and may be employed for complete surgery. The blade cuts and coagulates the surrounding tissue simultaneously, minimizing the danger of bleeding and post-operative hemorrhage. The extent of coagulation is controlled by the speed with which the incision is made and pilot indicator light to show blade temperature.

Hemostasis can be performed at the lower dial calibrations, cauterization at the medium calibrations and cutting at the high calibrations. Cutting is accomplished by firm short strokes with the blade. Detailed operating instructions included with the unit.

Ethyl chloride, ether and similar agents may be used for anesthesia, without danger of igniting, because the Cosmo Cutting Unit is not a spark-gap unit.

Can be used in 110 AC or DC current.



Patent Pending

*Complete unit \$42.50.*

## CORN BELT LABORATORIES, INC.

*The Veterinarians' Institution - Established 1913*

EAST ST. LOUIS, ILLINOIS

# Friskies

## DOG RESEARCH NEWS

### How Many Calories?



Most dog nutrition authorities agree that a dog needs 30 to 60 calories a day, for each pound the dog weighs, depending on his breed, characteristics and activity. The Friskies formula supplies sufficient energy-food for any size dog and any degree of activity. In addition, Friskies provides a perfect balance of every food element a dog is known to need.

For example, one pound of Friskies Meal supplies as much protein as 1½ lbs. of beef; as much iron as 1½ lbs. of liver; as much calcium and carbohydrates as 4 quarts of milk; and as much protein and minerals as 1½ dozen eggs.

### Mechanical Techniques of Breeding Dogs

F. J. (Bob) Bartos, manager of Friskies Kennels, has prepared a bulletin on this subject which has



Introducing the dog to the bitch (preplay)

been praised by veterinarians and kennel operators. It is complete, practical, and well-illustrated. If you would like a copy, write today and ask for Bulletin No. 6.

Authoritative information on the scientific care and feeding of dogs. Published by Albers Milling Company (a division of Carnation Company) under the supervision of Dr. E. M. Gildow, B.S., M.S., D.V.M., Director of Research.

No. 6

### Puppy Feeding for Healthy Growth



A pup should normally grow to half its adult size in three months. After weaning, pups should be fed four times a day. Give the first meal early in the morning, and the last as late in the evening as convenient—with the other two meals spaced at equal intervals during the day.

By the third or fourth month, the feedings can be cut to three per day—but don't forget that, as puppies grow, their need for more food increases. Feed each puppy as much as he can hold at each meal and let him sleep it off—which is necessary for good digestion and growth.

The most important question is not how many times a day to feed, but what to feed. You can spend a lot of time mixing special gruels—and a lot of money buying "extra" meat, eggs, milk, vitamins, etc. But split-litter tests prove that it is absolutely unnecessary. In every single test pups fed exclusively on Friskies Meal have been equal to those fed on more complicated, expensive diets.

### There's No Substitute for Experience

So consult your veterinarian regularly. And take advantage of Albers 50 years of experience in animal nutrition. Send your questions about dog feeding and care to Friskies, Dept. Y, Los Angeles 36, Calif.

NO SUPPLEMENTS  
NEEDED WHEN  
YOU FEED

Friskies  
A COMPLETE DOG FOOD

5 sizes  
50, 25, 10, 5, 2 lbs.

A FRISKY DOG IS A HEALTHY DOG

Merry  
Christmas



**We are happy**

at this season of the year to extend holiday greetings to  
our many friends and associates all over the nation.



**we enjoyed**

the pleasure of serving the profession with the best in  
pharmaceuticals and biologicals in 1950.

**we thank you**

and pledge the same faithful service with dependable  
NLC products in 1951—to help make your New Year  
successful and health-giving.



SERVING GRADUATE VETERINARIANS EXCLUSIVELY

THE  
**NATIONAL LABORATORIES**  
CORPORATION  
KANSAS CITY

# Puzzle with a Fast Answer... MASTICS® P & S



Yes—cows are back on the milking line sooner—in full-scale production of salable milk—with the Mastics method of mastitis control.

**MASTICS ARE** the original udder bougie—penicillin and streptomycin in a slim, smooth, quickly-soluble stick . . . tapered ends for easy insertion.

• more effective—high unit dosage of penicillin augmented by streptomycin gives greater antibacterial potency

• more thorough—ready solubility of Mastics in milk provides quick dispersal of medication throughout the entire infected quarter

• simple to use—individually foil-wrapped for individual insertion—self-lubricating—no special equipment required

• the most practical and economical form of therapy—cows can be returned to the milking line several days sooner—no waiting for milk to clear—freedom from grease and ointments eliminates contamination of milk

**MASTICS P & S**—New formula with increased potency—  
50,000 units each of penicillin and streptomycin  
25's . . . \$6.00      100's . . . \$23.00

Also Available:

New High Potency MASTICS—  
100,000 units of penicillin  
25's . . . \$5.75      100's . . . \$22.00

Regular MASTICS—  
25,000 units of penicillin  
25's . . . \$4.00      100's . . . \$15.00

® Trade-Mark Reg. U. S. Pat. Off.

\*caused by *Streptococcus*, *S. coli*, *Aerobacter aerogenes*

**THE MASTICS METHOD IS THE METHOD OF CHOICE FOR EFFECTIVE MASTITIS\* CONTROL**

Mastics are extensively advertised to dairymen—sold only to veterinarians, of course.

**WRITE FOR DESCRIPTIVE LITERATURE TO**



**The Martin Laboratories**  
West Chester, Penna.

# AVMA ★ Report

## Veterinary Medical Activities

- ◆ The death of Dr. B. J. Killham, AVMA Executive Board member from District X (Michigan and Ohio) necessitates a special election to elect a successor for the unexpired term (ends in 1954). Nominating ballots were mailed to members in the district early in November.
- ◆ The AVMA exhibit on parasitism, highlighting trichinosis and cysticercosis, was shown at St. Louis, Mo., during the convention of the American Public Health Association, Oct. 30-Nov. 3, 1950. Members of the Greater St. Louis V.M.A., working through Dr. A. R. Bott, secretary, attended the booth and answered questions on veterinary medical problems. Mr. J. J. Shaffer installed the exhibit.
- ◆ National Security Resources Board has requested the AVMA to offer proposals for veterinary medical educational needs in time of national emergency. A committee consisting of Deans H. D. Bergman, Iowa; W. A. Hagan, New York; W. R. Krill, Ohio; and Dr. C. D. Van Houweling, secretary, was appointed to formulate the proposals. Dr. M. S. Shaham, Washington, D. C., served for Dr. Hagan, who was unable to attend the first meeting of the group at Washington on November 12.
- ◆ Dr. E. P. Johnson, Blacksburg, Va., was officially delegated by the AVMA to attend the Third Inter-American Congress on Brucellosis at Washington, D. C., Nov. 6-10, 1950. Dr. Johnson is AVMA representative to the Division of Biology and Agriculture of the National Research Council, sponsor of the Congress.
- ◆ President W. M. Coffee represented the AVMA at the U. S. Livestock Sanitary Association meeting, Phoenix, Ariz., Nov. 1-3, and at the Southern V.M.A., Dallas, Texas, Nov. 6-8, 1950. He also addressed the student chapter of the AVMA at Texas A. & M. College on Nov. 9, 1950.
- ◆ Executive Secretary J. G. Hardenbergh attended the dedication exercises for the new veterinary clinic at the University of Minnesota on the evening of Oct. 25, 1950, and the annual conference for veterinarians which took place that day and the following day.
- ◆ Boards and councils of the AVMA which met in the conference room of the new offices of the AVMA (15th floor, instead of 8th floor, same location) are: Council on Education, Nov. 25; Research Council, Nov. 26; and Executive Board, Nov. 28-29, 1950. These followed sessions of other groups which customarily meet at about the time of the International Livestock Exposition.
- ◆ A civilian veterinary consultant to the Air Force has been appointed for the first time. Dr. W. R. Krill, dean of the College of Veterinary Medicine of The Ohio State University, fills this appointment.
- ◆ Civil defense plans for veterinarians and for veterinary medicine are being formulated by an executive committee appointed for that purpose (see news item p. 484). In addition to the members of the committee, Dr. W. R. Hinshaw of Camp Detrick, Frederick, Md., attended the first meeting of the group.
- ◆ Assistant Executive Secretary C. D. Van Houweling spoke to members of the student chapter at Michigan State College, East Lansing, on Nov. 16, 1950.
- ◆ Bacitracin treatment of ear canker in dogs ranked with the Korean war and President Truman's United Nations address in the news of October 24. Quoting the October AVMA JOURNAL papers coast to coast told of the promising new treatment, and Paul Harvey, ace news commentator, reported it over the ABC network.
- ◆ Section officers, who constitute the Program Committee, are assembling material for the Milwaukee meeting in August. They solicit papers for presentation, subjects which should be discussed, or names of speakers who have information which veterinarians should be using.

# METHACIDE

WARREN-TEED Brand of Methylbenzene

## MOST EFFECTIVE CANINE ANTHELMINTIC

**I**NTRODUCING an outstanding advancement in the treatment of roundworm and hookworm infestations in dogs. HIGH EFFICIENCY . . . LOW TOXICITY . . . well tolerated . . . a nearly ideal anthelmintic for puppies and mature animals . . . economically priced.

0.5 gm. and 1.0 gm. soft elastic capsules in bottles of 100

Literature available on request



Meticulously Manufactured  
for large and small  
animals.

# WARREN-TEED

## Veterinary Products

*The* **WARREN-TEED**  
**PRODUCTS COMPANY**

Veterinary Division

COLUMBUS 8, OHIO

Dallas • Los Angeles • New York • Portland

Sold Only to  
Graduate Veterinarians  
throughout the nation.

**one out of every five...**



Widespread nutritional deficiency is held responsible for failure of one out of every five dogs to attain optimal growth. Prevention and correction of this condition among small animals is now possible with new Zymatinic® Drops, a stable and potent combination of liver concentrate with iron, folic acid, and other principal B-vitamins. Generous quantities of the factors required for optimal health are supplied by this easily-administered, highly-acceptable preparation.

Zymatinic Drops is indicated prophylactically and in therapy of nutritional anemias, intestinal parasitic infestations, and during periods of depraved appetite.

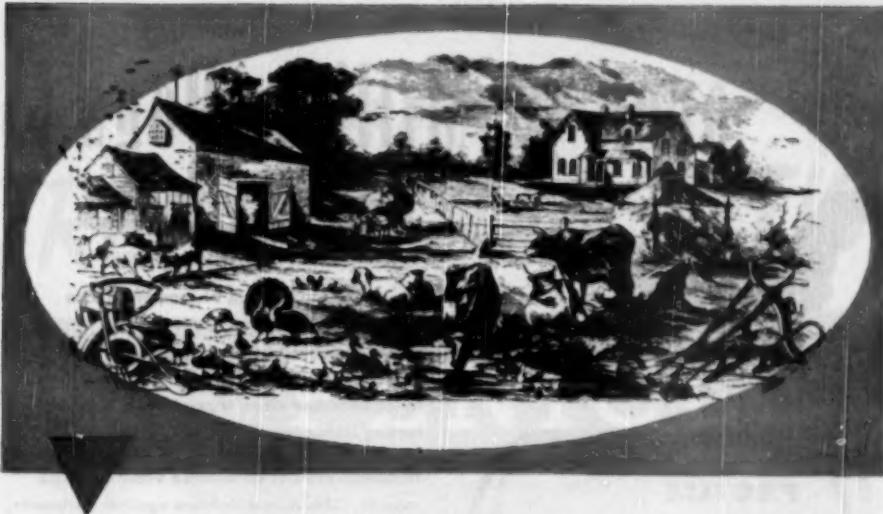
Literature describing clinical applications of Zymatinic Drops and other Upjohn preparations for the practice of veterinary medicine may be obtained on written request.

\*Trademark, Reg. U. S. Pat. Off.

**Upjohn**

**Department of Veterinary Medicine**

ATLANTA • BOSTON • CHICAGO • CLEVELAND • DALLAS • KALAMAZOO • KANSAS CITY • LOS ANGELES  
MEMPHIS • MINNEAPOLIS • NEW YORK • PHILADELPHIA • PORTLAND • SAN FRANCISCO • TORONTO, CANADA



*NEW for the Veterinary Profession ...*

*antibiotic preparations by Pfizer  
the world's largest producer of antibiotics*

**for the treatment of infectious diseases  
in both domestic and farm animals**

Veterinary antibiotic preparations, including the newest, will soon be offered under the Pfizer label—a sign of quality for over one hundred years.

Pfizer's extensive experience in fermentation processes, its vast production facilities, and the critical standards developed over a century of medicinal chemical manufacturing will now provide veterinarians with antibiotics unexcelled in purity and potency. As further advances in antibiotic therapy are developed through Pfizer research programs additional new products will be made available for veterinary medicine.

Pfizer veterinary antibiotic preparations will be promoted and distributed ethically—for the veterinary profession.

**Pfizer**

*Antibiotic Division*

CHAS. PFIZER & CO., INC., Brooklyn 5, N.Y.

# over 1/2 Million Dogs...



## FROMM CANINE DISTEMPER VACCINE

FROMM LABORATORIES, INC.  
Grafton, Wisconsin, U. S. A.  
Telephone Cedarburg 811

Over half a million dogs have been  
vaccinated with Distemperoid — (Ferret  
Origin, Green Method).

The efficacy of FROMM Distemperoid as a  
prophylactic and therapeutic agent  
has been proved beyond question by field tests  
and countless investigations. Being a  
living modified virus, it produces a solid,  
lasting immunity.

Distemperoid has an assured viability of six  
months. Use it as a defense against distemper.  
It can be administered with confidence.

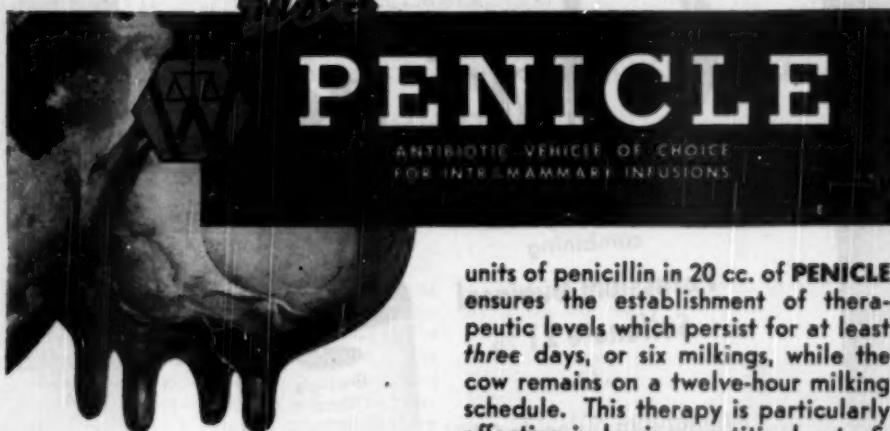
- Sold only to qualified Graduate Veterinarians
- Supplied in single-dose and 10-dose packages

sole distributor  
**WINTHROP - STEARNS, INC.**

178 VARICK STREET  
NEW YORK 13, NEW YORK

• Send for your FREE booklet  
"Treatment and Prevention of Distemper"

*to avoid disappointment in*  
**TREATING MASTITIS**



# PENICLE

ANTIBIOTIC VEHICLE OF CHOICE  
FOR INTRAMAMMARY INFUSIONS

units of penicillin in 20 cc. of **PENICLE** ensures the establishment of therapeutic levels which persist for at least three days, or six milkings, while the cow remains on a twelve-hour milking schedule. This therapy is particularly effective in bovine mastitis due to *S. agalactiae*, the most common causative factor.

③ Each batch of **PENICLE** has been biologically tested for its power to maintain a therapeutic concentration of penicillin for seventy-two hours.

④ **PENICLE** has received the benefit of thorough experimental and clinical study.

**PENICLE** is available to graduate veterinarians only. Complete literature on request.

**SUPPLIED:** Bottles containing 100 cc., cartons of 12 bottles. Special prices on half-gross and gross quantities.

**PENICLE** was developed after years of research. Accept no substitutes!

**S**uccessful penicillin therapy of bovine mastitis is often hampered by failure to provide therapeutic concentrations of the antibiotic in the infected quarter for long enough periods.

Leading veterinarians have met this problem by selecting **PENICLE** as a vehicle for administering antibiotics in thousands of cases because:

① The physicochemical properties of **PENICLE** facilitate permeation of the milk-duct system . . . and help to achieve sustained contact of the antibiotic with the offending organisms.

② A single injection of 100,000 of research. Accept no substitutes!

Veterinary Division

**WALLACE LABORATORIES, INC.** 53 PARK PLACE, NEW YORK 8, N. Y.

*Announcing...*

# Gwi-po

A tasteless powder  
combining

**Potassium Guaiacol  
Sulfonate 21%**

with

**Ammonium Chloride 21%**  
**Sodium Chloride 58%**



Veterinarians will welcome Gwi-po for its economy and convenience. Easy to handle, easy to dispense, easy to administer. Just dissolve 1 pound in 1 gallon of water, then add 6 to 8 ounces of the solution to each 25 gallons of drinking water. Indicated as an expectorant to assist in loosening accumulation of mucus in the upper respiratory tract of swine, other animals and poultry. Supplied in packages of twelve 1-pound jars.

**FORT DODGE**

FORT DODGE CORPORATION  
FORT DODGE, IOWA

Journal  
of the  
**American Veterinary Medical Association**

Copyright 1950 by American Veterinary Medical Association  
600 S. Michigan Ave., Chicago 5, Ill.

VOL. CXVII

DECEMBER, 1950

NO. 885

**High Pressure Sprays in Control of the Sheep Tick**  
(*Melophagus Ovinus* Linn)

LEE SEGHELLI, D.V.M., and B. D. FIREHAMMER, B.S.

*Bozeman, Montana*

IN THE PAST, control and eradication of sheep ticks has been satisfactorily accomplished by dipping the ewes and lambs shortly after shearing. More recently, the possibility of substituting high pressure spraying for dipping in the fall of the year has aroused much interest among western sheepmen. As a result, many sheep have been sprayed shortly after the lambs have been weaned. While this method of control has been well received by a number of sheepmen, there has been some doubt expressed as to its effectiveness.

Sheep are generally sprayed by either of two methods with power sprayers developing 400 lb. or more pressure. Small numbers of sheep, as in farm flocks, are usually hand sprayed. They are placed in a wide chute or a small corral made of panels and sprayed with either a single- or multiple-nozzled hand gun. When large numbers of sheep are to be sprayed, they are worked in a suitable corral and are driven through a regular chute as fast as they will move through a spray boom. The boom consists of a rectangular pipe frame the size of the chute, containing ten to 12 fixed nozzles in a set pattern. The spray apparatus is operated with a quick release valve and is placed either in the center or at the end of the chute. A cleated platform is provided inside of the chute at the boom

so that the sheep will not be slowed down by water and mud.

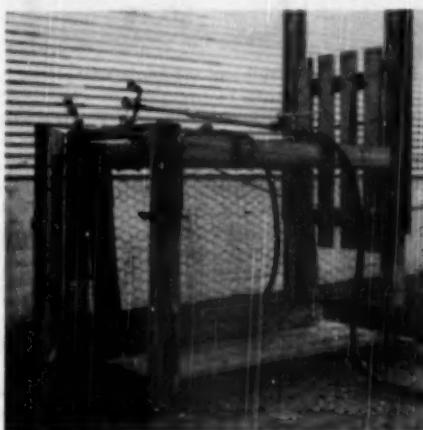


Fig. 1—Wire-sided cage and spray guns.

#### METHODS

In some preliminary trials, a number of mature fine-wool sheep with a six-month growth of fleece were sprayed at 400 lb. pressure to determine the most efficient nozzle assembly. The spray material used was water containing an aniline dye. Best results were obtained by using a nozzle fitted with a size 4 (1/16 in.) disc and strainer without a whirl plate. To determine the

From the Montana Veterinary Research Laboratory (Montana Experiment Station and Livestock Sanitary Board cooperation). Paper No. 228, Journal Series, Agricultural Experiment Station, Montana State College, Bozeman.

extent of spray penetration and wetting of the fleece, the sheep were examined immediately after spraying. When sheep were sprayed with a 3-nozzle hand gun held not more than 12 in. from the body, they showed

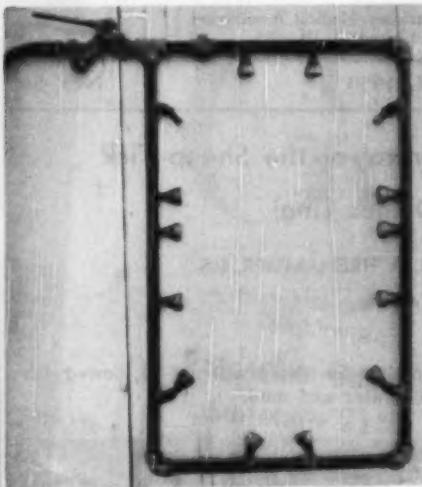


Fig. 2—Chute spray boom and nozzle arrangement.

thorough wetting of the fleece to the skin. Sheep which were driven through a spray boom showed superficial wetting of the entire fleece with irregular penetration to the skin along the path streaked by the nozzle pattern.

To better evaluate the two methods of high pressure spraying of sheep in full fleece, an experiment was conducted on a group of tick-infested lambs in the latter part of November, 1949. Several of the newer wettable insecticides were tested.

Fifty, 7-month old lambs of Rambouillet, Targhee, and Columbia breeding were selected at random. They were divided into five lots of 10 each and each lot was held in a separate pen.

Tick counts on each of the lambs were made by recording all of the live ticks found by systematically parting the wool on both sides of the body while the animal was secured in lateral recumbency. The ticks on all of the lambs were counted shortly before spraying and at ten and forty days following spraying. All of the ticks were recorded as mature adults, although in the postspraying counts, recently

emerged ticks were much more prevalent than in the prespraying counts.

A benzene hexachloride spray containing 0.06 per cent gamma isomer was used in both hand and boom spray trials. Using a hand spray gun, single treatments were made with wettable insecticides containing 0.5 per cent DDT, 0.5 per cent chlordane, and 0.5 per cent toxaphene. A power sprayer developing 400 lb. of pressure was used throughout the experiment.

The lambs to be hand sprayed were worked into a chute and then a single lamb was driven into a wire-sided crate (fig. 1) fastened to the end of the chute. The spray crate was constructed with one movable side to accommodate either lambs or mature sheep. Each end of the crate was equipped with a quick opening gate. By this method, the sheep is in a position that permits the operator to thoroughly wet the fleece with the minimum interference. The sheep is sprayed preferably by an operator on either side of the crate, using a quick release, 3-nozzle gun with a 2-ft. handle. With sufficient help, 175 to 200 sheep per hour can be treated by this method.

The spray boom apparatus (fig. 2) used was patterned after that used by Idaho workers<sup>1</sup> and consisted of a rectangular frame of  $\frac{3}{4}$ -in. pipe fitted with ten nozzles in a fixed pattern. It is equipped with a quick release valve operated by means of a rope several feet in length. A long rope is necessary to protect the operator from the spray material. In our experience, the best method of working sheep through a boom has been to place the boom on the end of the chute rather than in the center as recommended. It was difficult to work sheep through the boom at a constant rate regardless of where the boom was placed in the chute.

The lot of 10 lambs sprayed by the boom method were part of a group of 120 lambs which were driven through the spray boom. It was found that a large number of sheep could be run through the boom with less interruptions than with a few sheep. We used 45 gal. of spray on 120 lambs, or  $1\frac{1}{2}$  qt. per lamb.

Four lots of 10 lambs each were hand sprayed by the method described using

<sup>1</sup>Shull, W. E., Holm, Glenn C., Manis, H. C., and Tuthill, L. D.: Tick Control on Sheep, University of Idaho College of Agriculture Extension circular 92, (1946): 1-3.

DDT, chlordan, toxaphene, and benzene hexachloride. Approximately 2½ gal. of spray were used on each of the lambs to insure a thorough wetting of the fleece. In actual practice, it is believed that 4 to 6 qt. of spray would be sufficient for 7-month-old lambs. Good control of sheep ticks was obtained in another group of 100 lambs hand sprayed at the above rate.

TABLE I—Sheep Tick Control Obtained by Two Methods of High Pressure Spraying with Various Insecticides

Material	Lambs (No.)	Methods of spraying	Ticks per lamb before spraying (Ave. No.)	Live ticks per lamb after spraying (No.)		Mortality (%)	
				10 days	40 days	10 days	40 days
DDT 0.5%	10	Hand	87.6	3.1	2.7	96.3	96.9
Toxaphene 0.5%	10	Hand	89.8	2.4	0.0	97.3	100.0
Chlordan 0.5%	10	Hand	92.2	1.3	0.2	98.6	99.8
Lindane 0.06% gamma isomer	10	Hand	101.1	3.6	0.4	96.4	99.6
Lindane 0.06% gamma isomer	10	Boom	79.4	52.5	72.8	33.9	8.3

No toxic symptoms were noted in any of the lambs sprayed with the different formulations. One lamb in the lot hand sprayed with toxaphene died within forty-eight hours after spraying, but no significant pathologic lesions were observed on necropsy and the cause of death was undetermined.

The results obtained with the various

insecticides and by the two methods of spraying are shown in table I.

#### SUMMARY

The results obtained in this experiment indicate that satisfactory control of sheep ticks in the fall may be accomplished when sheep are thoroughly wetted, using a power sprayer with multiple outlet spray gun.

Sprays containing DDT, benzene hexachloride, toxaphene, or chlordan were effective in the control of sheep ticks at the suggested concentrations.

Spraying with a spray boom was ineffective in the control of sheep ticks. Similar results were obtained in the fall of 1948, when several hundred lambs were sprayed with a boom using 0.5 per cent DDT.

#### Who Is Moving?



When you move, whether by live or mechanical horsepower, advise the AVMA office immediately. Only by so doing will your JOURNALS reach you uninterrupted. The post office WILL NOT forward 2nd class mail.

#### Veterinarians and Poultry Work

Some of the reasons given by veterinarians for not doing poultry disease work are, according to Dr. H. C. Bigland, Edmonton, Alberta, the following:

- 1) I can't do it without a laboratory.
- 2) I don't know anything about poultry diseases.
- 3) I am too busy to worry about poultry.
- 4) There is no money in poultry work.
- 5) Poultry owners are not interested in me as a veterinarian.

[Which excuse is permitting a layman to encroach on your practice?—ED.]

Small warts on the teats and udders of dairy cows may sometimes be removed by daily applications of olive oil or castor oil.

## United States Civil Defense

### (A Book Review)

Adequate civil defense will require the interest and effort of hundreds and thousands of our people, contributed for the most part on a voluntary basis, says W. Stuart Symington in his letter transmitting to President Truman the plan\* for civil defense prepared by the National Security Resources Board.

We must put into action those precautionary measures which past experience and new tests have shown would save thousands of lives in case of attack. An outline of the organization and techniques which should be developed by the state and local communities is presented, because on these persons will rest the primary responsibility for civil defense.

Since there is no absolute military defense, an effective civil defense is vital to the future security of the United States. Until wars are effectually outlawed, civil defense must take its place along with military defense in any sound and well-rounded program. Civil defense can be defined as the protection of the home front by civilians acting under civil authority to minimize casualties and war damage and preserve maximum civilian support of the war.

Civil defense rests upon the principle of self-protection by the individual, extended to include mutual self-protection on the parts of groups and communities. In doing this, the location of resources is often more important than their quantity.

Individual and family self-protection must be supplemented by the organized civil defense services in all parts of the community. Plans must be made so that there will be combined and related programs for pre-attack action to reduce materially the magnitude of disaster and also the after-attack procedures. Among the items to be considered in pre-attack cautions are partial evacuation, preconstructed shelters, and similar precautions.

The basic operating responsibility for civil defense is in the individual and his local government. An enemy would attempt at the outset to destroy or cripple the production capacity and to carry direct attack

against civilian communities to disrupt support of the war effort. Such attempts would be directed against the points of greatest strategic importance and where they might produce the greatest damage. The considerations which determine profitable targets include total population, density of population, concentration of important industries, location of communication and transportation centers, location of critical military facilities, and location of civil governments.

No city or metropolitan area can be expected to provide completely for its own self-protection or recovery after attack. A state-supervised plan is required and the aims of such a plan should be to:

- 1) Organize critical target areas to meet emergency conditions anticipated under an atomic bomb attack.
- 2) Organize mobile support in the support areas, which are of equal importance to critical target areas. To be effective, these specialized services must be supplied by well-organized units which must have (a) ability to assemble rapidly, (b) provision for rapid transportation, (c) provision for effective means of communication, and (d) provision for operational self-sufficiency.

Every community should anticipate the possibility of some form of attack, as well as the possibility of being called upon to receive evacuees from other areas.

To be successful, a civil defense operation must have clear-cut and well-established principles of organization and command. The operating chain of command starts at the state level, the governor being responsible for civil defense operation.

During peace, the role of the state is primarily to advise, guide, and coördinate civil defense planning of local authorities throughout the state. The exact composition of a state civil defense organization is a matter for state determination. Civil defense is the responsibility of civil government.

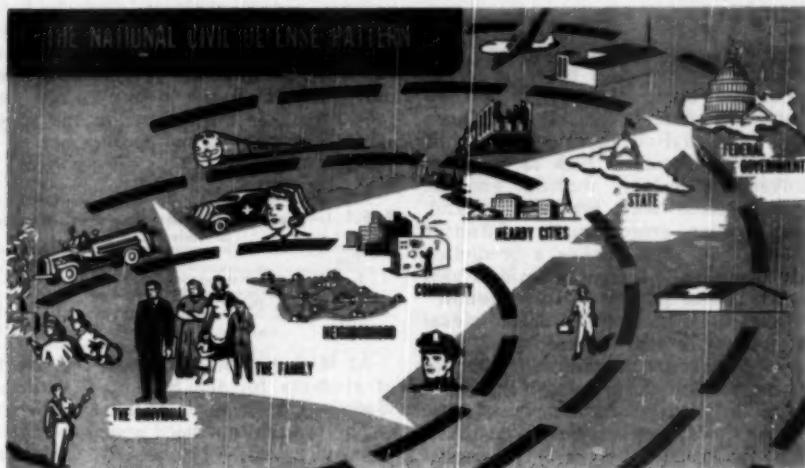
The role of the armed forces in the program comprises the following:

- 1) Indicate which areas are most likely to be attacked.
- 2) Inform people regarding the forms of attack and give technical advice regarding defense against such an attack.

\*United States Civil Defense. Prepared by the National Security Resources Board. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C. 162 pages. Illustrated. Price, 25 cents.

- 3) Decide on passive measures (blackout, dimout, camouflage) which may be necessary to effective military and technical action.
- 4) Warn of impending attack.
- 5) Assist civil authorities when requested to do so and when able to do so.
- 6) Dispose of unexploded ordnance.
- 7) Help train key civil defense personnel.

be carried out in four stages: (1) individual training, (2) team or unit training, (3) collective training, (4) combined training. Stage one implies that all volunteers will receive a general background of civil defense information and a certain amount of essential technical knowledge, while cer-



Public understanding and participation in the civil defense program must be based on knowledge of the facts and of the importance of civil defense in modern warfare; such knowledge will insure minimum loss of life, minimum fear and panic, high public morale, full individual participation in civil defense activities, and maximum public support of the war effort.

The public information program should provide regular reports to the public on all civil defense activities, through newspapers, radio and television programs, booklets, pictures, press conferences and interviews, and public appearances of responsible officials.

The public relations program must develop co-operation between the civil defense organization and such organized community groups as civic and fraternal, business and industrial, organized labor, veterans, women, religious, educational, professional, farm and trade, and such others as Boy Scouts, Girl Scouts, and 4-H clubs.

Civil defense training teaches people how to perform the services needed before, during, and after an enemy attack. It must

train volunteers will receive specialized training to qualify them for specific civil defense duties. Stage two will coordinate the abilities of individuals to form teams or units to perform technical and service duties. Stage three continues this collective training on a wider basis as to functions and activities. Stage four must combine indoor and outdoor training on an ever-increasing geographical scale.

Veterinarians must be prepared to perform not only their usual duties but the following special duties at time of disaster:

- a) Protect food animals, especially in the event of biological warfare. This means protection from contamination of the animal or the crops eaten by the animal.
- b) Care for pets and other small animals, such as those in zoos and similar institutions.
- c) Maintain and increase meat inspection.

The work of the veterinarian must integrate with the education program regarding shelter, evacuation, self-protection, mutual aid and mobile support, fire service, and law enforcement. Observance of these procedures will permit the veterinarian to perform the best possible service to himself and his community.

## The Prediction of Success in Veterinary Medicine at Michigan State College

ROSS W. MATTESON, Ph.D.

*East Lansing, Michigan*

SCHOOLS of veterinary medicine, along with other professional schools not able to enroll all of their applicants, face the problem of selection of students. Society, the school, and the individual all stand to gain when this selection process is such as to bring to professional training students who can and will succeed both academically and, upon graduation, professionally. Effective selection of students implies a prediction of future success based on analysis of past performance and present characteristics.

In attempts to measure such individual characteristics as may be associated with success in professional training, a number of prognostic instruments have been, and are being, devised by researchers. In the field of training for veterinary medicine, a significant investigation is at the present time under way at Iowa State College. The veterinary medicine aptitude test (*see August JOURNAL, 1950: 96-99*) being developed and validated at that institution appears to hold promise of becoming an effective aid in the prediction of success in veterinary college work. Michigan State College, along with other schools of veterinary medicine, is coöperating in the contribution of data for its development and utilization.

The use of psychological tests in selection represents but one side of the picture, however. A second, and fully as important, use of test results is to be found in connection with counseling. Mounting evidence suggests that the prediction of success in professional schools, and the effective counseling of applicants in the preprofessional years of training, should be considered as problems of a related nature. Since not all who seek entrance may be admitted, it is obvious that some consideration should be given the many applicants who must be denied the opportunity to train for the profession. With lengthening programs of preprofessional training,

this counseling service can best serve its purpose by coming as a continuous process during the first and second college years rather than as an abrupt "second choice" at the time of formal notification of rejection.

TABLE I—Biserial Correlations Based on Acceptance or Rejection

Test	Biserial r
1. Coöperative Natural Science Test	.36
2. A.C.E. Psychological Examination	.22
3. Minnesota Paper Form Board	.05

At Michigan State College, the selection of students for the School of Veterinary Medicine is accompanied by a recognition of the concomitant need and responsibility for counseling. Accordingly, representatives of the College Counseling Center have coöperated with Dean C. S. Bryan's Veterinary Selection Committee in attacking these problems. Testing and counseling services, for example, are made available early in the course of the student's preveterinary years. If it appears that his chances for success in entering into, or succeeding in, veterinary school are pretty small, the college freshman or sophomore can thus readily transfer into some more suitable field with a minimum of frustration and loss of time.

As an illustration of this second use of psychological tests, in May, 1948, a battery consisting of the American Council on Education Psychological Examination, the Minnesota Paper Form Board, the Coöperative Natural Science Test, and the Cleton Vocational Interest Inventory was given to all preveterinary students. These tests were not used in the selection of students to be admitted to the veterinary school. Using subsequent acceptance or rejection as a criterion, biserial correlation coefficients were computed for the various instruments. These (taken from Dr. L. P. Blum's original study) are shown in table 1.

Dr. Matteson is counselor at Michigan State College, East Lansing.

As a follow-up of the class actually entering the School of Veterinary Medicine in the fall of 1948, the writer compared the above test scores and also preveterinary school grades with academic success as indicated by grade point ratios in the first year of veterinary school for these students. Table 2 shows the correlations for several of these predictive indexes, using freshman veterinary average as the criterion. Complete data were available for 44 subjects.

TABLE 2—Correlations of Certain Indexes with Freshman Veterinary School Average

	<i>r</i>
1. First year preveterinary average	.62 **
2. College average at time of selection	.58 **
3. Biological Science Comprehensive Examination	.56 **
4. Co-operative Natural Science Test	.42 **
5. A.C.E. Psychological Examination	.32 *
6. Minnesota Paper Form Board	.07
7. Biological Science Interest (Cleleton)	-.19

\*Significant at the 5.0 per cent level.

\*\*Significant at the 1.0 per cent level.

A number of students had had more than one year of preprofessional training.

It is apparent from table 2 that, of the factors considered, preveterinary school grades were the most significant as predictors of success in the first year of professional training. Next in order were scores on the Basic College Biological Science Comprehensive Examination. The Co-operative Natural Science Test proved also to have a highly significant correlation with the criterion. The fairly close agreement of the coefficients for the various tests as shown in table 2 with those for the same tests as shown in table 1, where acceptance or rejection alone were considered, suggests that by-and-large the tests used might be considered about equally effective as predictors of acceptance and of subsequent academic success in the School of Veterinary Medicine.

The test of spatial visualization appeared to bear only negligible relationship to grades earned. The negative correlation of biological science interest with veterinary school success was rather surprising. Apparently, interest in the field of veterinary medicine, if essential to success, involves more than was determined by this scale of the Cleleton inventory.

The above tests, and others, given to preveterinary students at Michigan State College have been found useful in counsel-

ing applicants who can not be admitted to the School of Veterinary Medicine. A considerable number of preveterinary students come to the College Counseling Center each year for help in the selection of alternative vocational and educational objectives. Many of those whose prognosis for success in veterinary medicine appears doubtful are assisted through counseling on the basis of such tests (supplemented by additional individually selected tests and inventories) to a more realistic appraisal of their personal assets and liabilities. Some decide to make early changes in school preference; others, encouraged by the test results, continue toward the goal of their choice. Selection and counseling are thus coördinated.

### The Assets of General Practice

In defining a general practitioner as "a legally qualified physician who does not limit himself to one field of medicine," an article by W. M. Johnson, M.D., in *Current Medical Digest* (Sept., 1950) lists the following assets:

- 1) He has a goodly heritage from earliest historic times.
- 2) He has as much security as any one can expect to have nowadays—security of income and of stability.
- 3) He must keep up with medical progress along all lines. It is possible to keep fairly well abreast of the times by taking two or three medical journals and glancing through their contents regularly.
- 4) He views the patient as a whole rather than as a segment.
- 5) He yields a tremendous influence in political as well as in health matters.
- 6) The family doctor is a sort of honorary member of the families that make up his practice.
- 7) He has the great satisfaction of learning many things about medicine that are not in the textbooks.

One outgrowth of using the Brucella ring test in making brucellosis surveys has been to focus attention of dairymen on the importance of milk in the brucellosis eradication program. Because the members of their own families drink milk raw, owners are impressed by the necessity for eliminating brucellosis not only as an economic factor in herd management, but also as a factor in maintaining family health.

# SURGERY & OBSTETRICS

AND PROBLEMS OF BREEDING

## The Ratio of Male and Female Calves Produced by Natural Breeding and Artificial Insemination

HELLMUT KAFKA, Ph.D., D.M.V.

Lima, Peru

WE FREQUENTLY hear dairy farmers complain that too high a ratio of male calves results from artificial insemination (AI) as compared with natural breeding. Koller, reviewing a Danish report by Riemann concerning the influence of the pH of semen on the sex of the calf, echoes the same complaint made by Austrian dairy-men. The general desire on the part of the dairy farmers for more female calves as

It is generally accepted that the sex ratio follows the Mendelian laws and that, among the mammals, the male is the heterogametic and dominant sex. Therefore, an equal sex ratio in the bovine species should be expected. Lesbouyries<sup>1</sup> gives it as 98 males to 100 females; Williams,<sup>2</sup> citing Wilkins, as 107.3 to 100.0. Observations on which these data, and varying others given by different authors, were obtained were made in different localities and upon animals variously handled.<sup>2</sup> Our observations were made at three farms located within the Lima valley and under the same climatic and feed conditions. As to the reproductive performance of the cows, all three farms have their share of sterility problems, without any profound variations among them. We mention this fact in view of Williams'<sup>2</sup> statement that herds with poor reproductive performance often have an unbalanced sex ratio in favor of excessive male offspring. All data shown in tables 1 and 2, with regard to the sex of the calves,

TABLE 1—Sex Ratio of Calves Produced by Natural Breeding and Artificial Insemination

Bull		Natural breeding		Artificial insemination	
(No.)	Offspring	(No.)	(%)	(No.)	(%)
13	Male	77	49.35	—	—
13	Female	79	50.65	—	—
13	Male	—	—	192	52.63
13	Female	—	—	137	47.37
12	Male	43	46.74	107	54.59
12	Female	49	53.26	89	45.41

future replacements for their milking cows is emphasized at our location by the high turnover rate due to tuberculosis and sterility.

TABLE 2—Sex Ratio of the Calves in Relation to Each Sire

Bull	Natural breeding		Artificial insemination	
	Male (No.)	Female (No.)	Male (No.)	Female (No.)
1	18	60.0	12	40.0
2	14	53.8	12	46.2
3	4	36.4	7	63.6
4	12	44.5	15	55.5
5	6	60.0	4	40.0
6	—	—	—	—
7	—	—	32	71.1
8	—	—	15	50.0
9	—	—	14	50.0
10	—	—	26	49.0
11	—	—	25	58.1
12	5	50.0	9	69.2
13	—	—	9	69.2
14	3	—	40	56.3
15	3	—	9	45.0
16	1	—	14	43.8
17	9	52.9	1	—
18	4	40.0	6	60.0
19	—	—	11	57.9

concern full-time pregnancies only, and the sex of twins was not considered at all. The AI procedure was based on the deep cervical insemination technique.

As shown in table 1, 13 bulls were used for natural breeding, only, and sired 77 male and 79 female calves. A second group of 13 bulls was used for AI exclusively. Their offspring consisted of 152 male and 137 female calves. In a third group, 12 bulls were used for both natural breeding and AI. They produced 43 males and 49 females by natural breeding; 107 males and 89 females by AI. The total number of calves, divided according to sex, is therefore: by natural breeding—120 (48.39%) males, 128 (51.61%) females; by AI—259 (53.4%) males, 226 (46.6%) females.

Table 2 gives the sex ratio of the calves in relation to each sire (used in compiling the data for table 1) whenever his offspring numbered at least 10. Of 8 bulls used for natural breeding, 3 (bulls 3, 4, and 18) were responsible for a sex ratio in favor of female calves; 4 bulls (1, 2, 5, and 17) for an excess of male calves; and only 1 bull (12) for an equal sex ratio. Of 12 sires used for AI, 7 (bulls 6, 10, 11, 12, 13, 16, 19) had a sex ratio in favor of males; 2 (14 and 15) in favor of females; and 3 (7, 8, and 9) produced an equal ratio.

#### DISCUSSION

Of three groups of bulls whose progeny is tabulated according to the sex ratio, the group which was used for natural breeding, only, produced an almost equal number of males and females. The group of bulls used for AI, only, produced 5.2 per cent more males than females. The group used both naturally and for AI, when used for natural breeding, produced 6.5 per cent more females; when used for AI, 9.1 per cent more males. For all groups, natural breeding resulted in 3.2 per cent more females; AI in 6.8 per cent more males. Even conceding that these figures were compiled from a rather small number of cases, complaints made by dairymen in different countries about an excess of male calves as a consequence of AI, appear to be justified. Data shown in table 2 suggest that the blame falls less upon AI as a method and more upon a few specific bulls (as for instance bulls 6, 11, 12, 16) which were responsible for an excessive number of males.

#### SUMMARY

The sex ratio of calves is tabulated according to sires used for natural breeding, artificial insemination, and for both. The data obtained demonstrated a sex ratio in favor of female calves (51.61:48.39) when natural breeding methods were used; in favor of male calves (53.4:46.6) with artificial insemination. This unequal sex ratio was traced to specific sires of all groups.

#### References

- Lesbouyries, G.: *Reproduction des Mammifères Domestiques*. Paris, 1949.
- Williams, W. L.: *Veterinary Obstetrics*, Ithaca, N.Y., 1943.

#### Transplanting Mammalian Ova

Because experiments have shown that the newborn being developed from the ovum transplanted into the uterus of another animal retains the character of its ancestry, the operation has been widely advertised as a "revolution in animal breeding" (*Science*, April 1, 1950). The publicity can not escape the attention of clinical veterinary medicine. That is, it is logical to ask: "Will the implantation of ova into the uterus of another mammal of the species revolutionize animal-breeding practices as artificial insemination has done?"

The answer is "No." In the first place, the technique will not be easy to simplify into a practical procedure of the livestock farm, glorious as it would be to make outstanding cows produce many more than the natural number of calves, as bulls do by artificial insemination. Secondly, the experiments have shown little, if anything, more than that the uterus is but an incubator as devoid of influence on heredity as the wooden box used to hatch hen eggs. From the bare facts disclosed in published reports, the scientific and practical value of these experiments is dubious.

**Teat Surgery.**—Be sure that all four teats milk at the same rate—surgery will accomplish this.—W. Wisnicky, D.V.M., Wisconsin.

*The Irish Veterinary Journal* (May, 1950) reports a movement to legalize the use of local anesthetics in the "dishorning" of cattle.

## Cecostomy in the Horse

### A Practical Experimental Procedure

D. E. JASPER, D.V.M., Ph.D., and P. T. CUPPS, Ph.D.

*Davis, California*

THE SCARCITY of reported physiologic studies of the digestive tract of the horse is well known. Alexander and Donald<sup>1</sup> refer to the early observations of Colin<sup>2</sup> in his publication of 1886, and Schalk and Amadon<sup>3</sup> made some very interesting studies of motility patterns of the stomach of the horse. Using a balloon introduced into the stomach with a stomach tube, these workers recorded 1,500 graphs from 19 different horses. According to Dukes,<sup>4</sup> the Russian investigators Egorov and Cheredcov<sup>4</sup> were apparently the first to establish a fistula between any portion of the gastrointestinal tract and the exterior by producing a gastric fistula in the fundus region. Early in 1949, Alexander and Donald<sup>1</sup> described a successful technique for the establishment of a cecal fistula in the horse.

In the spring of 1948, current investigations of digestion in the horse at this station suggested a cecal fistula as being very desirable for obtaining pertinent data. Consequently, the operation was attempted and a satisfactory technique developed which required two stages for completion. The cecum was exteriorized at the first operation and opened to the outside at a minor second operation.

#### PREPARATION

Feed was withheld for twenty-four to thirty-six hours preceding surgery, in order to permit considerable emptying of the gastrointestinal tract. Water was not withheld but was restricted during the last twelve hours.

The horse was cast upon its left side and complete surgical anesthesia accomplished with a 7 per cent solution of chloral hydrate given intravenously, or by injection of a commercial preparation containing chloral hydrate, magnesium sulfate, and pentobarbital sodium. The front legs were

left tied but the casting ropes were removed from the hind legs, which were then anchored backward so that sudden movements could not endanger the operator.



Fig. 1—Cecal fistula. Active peristaltic contractions have carried folds of cecal mucose and ingesta to the outside. The hair is wet from lying on concrete and escape of ingesta during feeding trial.

#### SURGERY AND AFTER-CARE

The surgical field was shaved, scrubbed thoroughly with soap and water, swabbed with 70 per cent alcohol, and painted with tincture of iodine. A heavy shroud was put in place, and the incision was made through the skin and subcutaneous fascia. The incision, as in the technique of Alexander and Donald,<sup>1</sup> began about 2 in. below the midpoint of the line joining the coxal tuberosity to the head of the last rib and extending downward and slightly forward for a distance of 6 in. Towels were then clamped to the wound edges and the incision continued by cutting across the aponeurosis.

From the School of Veterinary Medicine, University of California, and the Division of Animal Husbandry, University of California, Davis.

neurosis and fibers of external and internal oblique abdominal muscles. The fascial sheet of the transverse abdominal muscle was split longitudinally to expose the peritoneum which was opened to within about  $\frac{1}{2}$  in. of each end of the incision. Bleeding was chiefly of the oozing type which soon subsided spontaneously. Occasional vessels required clamping or ligation.

Identity of the cecum was best insured by bringing it through the incision, though this was not always done. The desired portion for exteriorization, the proximal third of the body in this case, was then noted and the rest of the cecum returned to the abdomen. The lateral surface of the selected portion was then brought through the incision and the serosal surface sutured firmly to the lips of the skin using through and through mattress sutures of heavy linen. The skin wound was allowed to spread so that approximately 3 in. of the cecum was exteriorized at the widest point. The dorsal and ventral commissures of the wound needed careful attention to prevent leakage around the wound and into the peritoneal cavity. As the cecum did not reach the entire length of the skin incision, the skin commissures were carefully sutured with interrupted linen sutures reinforced with umbilical tape sutures to avoid tearing in case of great tension.

Temporary stay sutures of umbilical tape were placed across the incision, being anchored in the skin about 2 in. on either side of the incision. It was believed that by drawing the incision closer together, danger of disruption as the horse struggled to gain its feet would be less. The exteriorized cecum and skin edges were then painted liberally with smear 62 as protection against flies, and the horse was allowed to gain its feet as soon as it was capable of doing so. Smear 62 was applied from time to time until healing from the second operation had taken place.

The exteriorized portion of the cecum became quite thick and edematous, exuded a serous fluid for several days, and then assumed the gross and histologic appearance of granulation tissue. Within seven to ten days, skin and serosal surfaces became closely adhered so that the cecum could be safely opened, thus completing the second stage of the operation. This was accomplished merely by excising the exteriorized portion to within  $\frac{1}{2}$  in. or so of

the union with the skin. The remaining portion rapidly atrophied, leaving a smooth union with the skin. No anesthesia was required.

The almost complete absence of adverse reactions following surgery was surprising. The horses were allowed to go back to full rations, and none of the animals showed evidence of anorexia. In only one case was there a very slight postoperative temperature rise. The fear of peritonitis was enhanced by the necessity of performing two of the operations in a barn lot where it was impossible to prevent a certain amount of dust from blowing through the air. In the first animal, 250 ml. of 25 per cent sulfamethazine solution were poured into the peritoneal cavity before closure. Sulfamethazine was also injected intravenously twenty-four hours following surgery. Subsequent patients received the drug only intraperitoneally before closure.

Several days following exteriorization in 1 case, the cecum pulled away and disappeared from sight. There has not been the slightest indisposition to this day (more than a year later) and evidence of the former wound is most difficult to find.

#### DISCUSSION

The technique herein described is quite similar to that of Alexander and Donald,<sup>1</sup> with but two exceptions. The above authors formed a peritoneal ring by suturing the peritoneum to the outer edge of the internal oblique muscle, using interrupted 00 silk sutures. Similar silk sutures were then used to assure firm apposition of the serosal surface of the cecum to the peritoneal ring. Approximation of the cecum to the skin appeared identical to our method but no stay sutures were described.

The second exception involves the second stage of the operation wherein they again induced general anesthesia. With the animal in lateral recumbency, excess granulations were removed and the lips of the opened cecum were sutured to the skin edges with No. 7 nylon sutures.

The formation of the peritoneal ring to which the cecum is sutured appears to be a laudable procedure, in that a firm union between the two serous surfaces is assured from that time. The fragile nature of the peritoneum and the depth of the incision through the thick external oblique abdomi-

nal muscle contribute to the difficulty of forming such a ring. We, therefore, resorted to the easier and simpler method of relying upon union of the serous surfaces by fibrinous adhesions, since approximation was forced by drawing the cecum through the wound to the outside. Such a procedure saves time and effort and has worked well for us.

We found very little objection to opening the exteriorized cecum with the animal standing and without anesthesia. Since the cut edges of the cecum soon heal over smoothly, it seems to us unnecessary to again anesthetize the animal to permit suturing of the cecal edges to the skin.

The inflatable rubber stopper designed by Alexander and Donald<sup>1</sup> merits use by anyone utilizing cecostomy as an experimental procedure in the horse.

#### SUMMARY

A two-stage operation for cecostomy in the horse is described, the first stage involving exteriorization of the cecum under general anesthesia, the second stage or completion of the fistula to the outside being done without anesthesia or special restraint.

#### References

- <sup>1</sup>Alexander, F., and Donald, D. E.: Cecostomy in the Horse. *J. Comp. Path.*, 59, (1949): 127-132.
- <sup>2</sup>Colin, G.: *Traité Physiologie Comparée*. 3rd ed Paris, Baillière, 1886.
- <sup>3</sup>Dukes, H. H.: *The Physiology of Domestic Animals*. 4th ed. Comstock Publishing Co., Inc., Ithaca, N.Y., 1937.
- <sup>4</sup>Egorov, S. V., and Cheredcov, V. N.: *J. Physiol. U.S.S.R.*, 16, (1933): 520.
- <sup>5</sup>Schalk, A. F., and Amadon, R.S.: Gastric Motility Studies in the Goat and the Horse. *J.A.V.M.A.*, 59, (1921): 151-172.

#### Infertility in Dairy Cattle

Infertility should be approached as a herd problem and the basic knowledge possessed by the practicing veterinarian will enable him to be of great help to most of the cattle breeders who consult him about their reproductive problems. There are a number of simple techniques and remedies which veterinarians can use to correct the basic trouble in most herds. Their knowledge of, and ability to solve, the problems will develop as they spend more time studying them.—E. A. Woelfer, D.V.M., Wisconsin.

#### Pig Hatcheries

The pig hatchery is essentially a sow dairy involving the production of baby pigs, according to Al Haller, B.S. Ag., of Weix Farm, Sun Prairie, Wis. No other pigs except sows and baby pigs are kept on the farm where the hatchery is located. Weix Farm maintains about 200 sows under these conditions and pigs are being farrowed every week of the year.

The pigs from this hatchery are sold at the age of 9 weeks but are wormed, de-loused, castrated, vaccinated, and started on feed. Success of the project is based upon the three factors of breeding, feeding, and management. From the standpoint of breeding, the pig hatchery can use only a sow which has demonstrated her ability by raising two litters of 9 pigs, weaned at a weight of 40 lb., and having at least 14 teats. If the factors of conformation can be obtained along with these necessities, they are that much added advantage. These sows are mated with boars that are exceptionally long and have proved a rate of gain. Color is disregarded.

The sows are self-fed with a separate compartment for concentrates. Alfalfa hay of high quality forms an important item in the ration. The sow is a very smart animal and will make a profit for the owner if given unlimited credit in the way of well-balanced feed at will. Fresh clean water must always be available in connection with a self-feeding project. The baby pigs are self-fed in a creep, in addition to having access to the feed of the sow. One of the biggest factors in the feeding program has been the maintenance of sows on Ladino clover pasture.

The management of the sows is based upon a rigid sanitary program, which involves scalding of the farrowing pens before the sow enters, keeping the sow on a self-feeder from five days before farrowing until the pigs are weaned, penning sows individually, and sloping the floors so that the feeder and waterer are at the low end.

**Hormones for Cattle.**—In using hormones for reproductive disturbance in cattle, it is better to use small dosages and to repeat as needed than to use large dosages and then try to remove the excessive effect from the occasional patient overdosed.—H. E. Kingman, Sr., D.V.M., Wyoming.

# CLINICAL DATA

## Clinical Notes

Although the various sulfonamides can be considered to some extent selective in their action (*i.e.*, sulfathiazole for staphylococci), too much faith should not be placed in their selectivity.—*Cur. M. Dig.*, Feb., 1950.

The temperature at which the average daily gain and rate of feed consumption were greatest depended on the weight of pigs. An increase in relative humidity at high temperature distressed the hogs in trials at the University of California.

Through the combined activity of experienced laboratory personnel and veterinarians, losses of fetuses and foals due to infections have decreased approximately 20 per cent in the Bluegrass area of Kentucky within recent years.—*D. W. Bruner, D.V.M.*, *The Blood-Horse*, Jan. 21, 1950.

Prevention of parasitism in the southeastern United States involves pasture management and rotation, drainage, clean drinking water, the feeding of hay from a rack and not from the ground, manure disposal, pasturing in small groups, the use of portable pens for calves, and drylots which are bare rather than grassy.—*F. S. Chance, B.S.*, Tennessee.

**Antibiotics in Viral Infections.**—The favorable response of human ornithosis, virus pneumonia, and nonparalytic polio-myelitis to antibiotic treatment justifies the trial of that type of chemotherapy in a number of incurable viral diseases of domestic animals, namely: canine distemper, hog cholera, foot-and-mouth disease, the fowlpests, and many others. The veterinary clinic is a vast, wide-open field for extensive trials of that class. Besides, much remains to be learned about the curative properties of antibiotic and sulfonamide mixtures in bacterial infections. The raging revolution in chemotherapy is leaving a lot of unanswered questions on the veterinarian's lap. Animal industry will expect an answer.

First successful photographs of the virus of foot-and-mouth disease have been made with the aid of an electron microscope (x 60,000) at the University of Lyon, France. The virus of equine infectious anemia will be examined next.—*Blood-Horse*, March 25, 1950.

The survival of the oöcysts of *Eimeria* spp. in soil from September to June, reported by Kouts (*The Speculum*, Winter, 1950), not only confirms previous observation of Delaplane and others but also sets forth a problem not easy for the average poultry producer to solve.

**Control Ring Test Antigen.**—The milk and cream ring test, properly used in official area brucellosis-control programs, is a valuable tool. Its use under official supervision should be supported, but it should not be permitted to fall into the private hands of dairy plant operators and individual herd owners.—*Hoard's Dairyman*, Nov. 10, 1949.

Like other laboratory investigation, the x-ray film is to be regarded as but another part of diagnostic evidence. The interpretation of the clinical examination by the trained mind is implemented but not replaced by the shadows of a film. Moreover, symptoms are paramount in arriving at a diagnosis and mapping the course of treatment.

Stomach worms which cause losses in cattle in the southeastern United States are of five species, although there are 70 species known throughout the world. The losses occasioned by stomach worms must be considered in stages other than the adult, because frequently the larval stages are much more damaging in loss of weight, feed utilization, and unthriftiness than are the adult worms in the intestine.—*A. H. Groth, D.V.M.*, Missouri.

Good sanitation is important in effective fly control.

## Congenital Cerebellar Hypoplasia in a Holstein-Friesian Calf

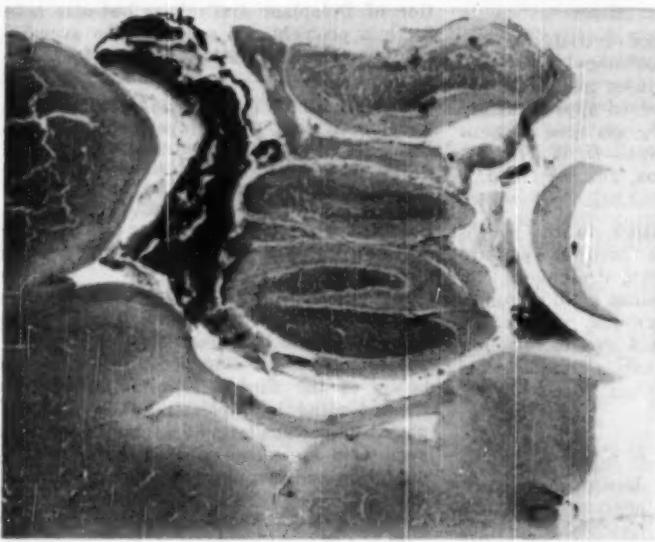
WAYNE A. ANDERSON, D.V.M., M.S., and C. L. DAVIS, D.V.M.

Denver, Colorado

CONGENITAL anomalies of the brain are infrequently observed in newborn domesticated animals, probably because the opportunity for careful autopsy is seldom afforded. In human beings, however, such anomalies are more often detected and, according to Moore,<sup>1</sup> the most notable focal failures of development in the brain involve the corpus callosum and the cerebellum. Innes<sup>2</sup> *et al.* described the clinical and his-

the anomaly was ascribed to a hereditary factor which had emerged as the result of intensive breeding. The 5 cases reported occurred in three separate, comparatively small herds, and in one instance no further cases developed following the removal of the herd sire.

In the cases observed by Innes, macroscopic examination showed some atrophy of all the folia and, on section, the texture was



—Glenn E. Mills, Denver

Fig. 1—Section showing cerebellum in its entirety, consisting of only three laminae. The dark area to the left is hemorrhage resulting from slaughter operation. x 10.

tologic features of five examples of cerebellar hypoplasia in newborn Hereford calves which were slaughtered at 1 to 20 days of age for autopsy purposes. It was thought, at the time, that the condition was restricted to the Hereford breed, and

From Branch Pathological Laboratory, Denver, Colo.  
Drs. Anderson and Davis are with the Bureau of Animal Industry, U.S. Department of Agriculture.

The authors express their appreciation for assistance in obtaining this material to Dr. E. A. Meyer, Inspection and Quarantine Division, and Dr. W. D. Fountain, Meat Inspection Division, Bureau of Animal Industry, U.S. Department of Agriculture.

tough and leathery. Histopathologic changes were confined to the cerebellum. The folia were, for the most part, narrower than normal. The wasting was associated with gross disorganization of the normal cortical structures, the molecular and granular layers both being abnormally thin. Their boundaries were somewhat indistinct owing to an excess of cells in the molecular area, and there was an almost complete absence of Purkinje cells.

### CLINICAL AND PATHOLOGIC FINDINGS

Recently, a 3-month-old Holstein-Friesian bull calf showing evidence of a central nervous system disturbance was received at the Denver yards. The animal stood with all four feet braced in a straddled position and, when attempting to move, showed marked incoordination. The federal yard inspector tagged the calf as a suspect, because at the time rabies and listeriosis were occurring among cattle in the Denver area. The animal was sold to a federally inspected establishment. After several days' observation in the abattoir pens, the symptoms suggested neither of these diseases, and slaughter was permitted. There was no elevation of temperature at any time. At postmortem inspection, no visceral lesions were noted and the head was submitted to the Denver laboratory of the Pathological Division of the Bureau of Animal Industry for examination.

The calvarium was removed and the entire brain taken out intact. Examination of the brain revealed the cerebellum to be extremely rudimentary, being approximately 5 mm. in diameter. There was no evidence of division into a median vermis and lateral lobes. An excessive amount of fluid was present in the space normally occupied by the cerebellum. Impression smears of the hippocampus were negative for Negri bodies. All the existing cerebellar tissue was included in one histologic section. Examination revealed the arbor vitae structure to be poorly developed, consisting of only three laminae in its entirety (fig. 1). There were atrophy and disruption of the granular layer with occasional degeneration of Purkinje cells. Sections from other portions of the brain failed to show any microscopic abnormalities or evidence of an inflammatory process.

The pathologic findings being those of a congenital condition, a complete history of the case was obtained from the owner. The animal was the first calf born to a young heifer, and at birth was unable to stand. When attempting to rise, he would fall over backward. The attending veterinarian attributed the condition to probable spine injury at the time of birth and, because of this diagnosis, an effort was made to save the animal. The calf was placed in a sling twice a day to nurse, and

his legs were massaged daily. After two weeks' care there was some improvement, to the extent that the calf could stand alone, but only in a straddled position. Over a period of three months, the animal developed some ability to walk, but with a staggering gait. The prognosis being unfavorable, the calf was consigned to the yards for slaughter.

### DISCUSSION

This case demonstrates the loss of equilibrium primarily resulting from cerebellar hypoplasia followed by gradual functional compensation. According to Duke,<sup>2</sup> this compensation is believed to follow increased control over the muscles by the cerebrum. These findings demonstrate that faulty development of the cerebellum may occur in breeds other than the Hereford. The paucity of reports of this particular anomaly may be due to the fact that such cases seldom come to autopsy, the animals usually being destroyed shortly after birth. A problem of clinical differential diagnosis is also presented.

### References

- Moore, Robert Allan: Textbook of Pathology. W. B. Saunders Co., Philadelphia, 1944: 1186.
- Innes, J. R. M., Dorothy S., and Wildson, A. J.: Familial Cerebellar Hypoplasia and Degeneration in Hereford Calves. *J. Path. and Bact.*, 50, (1940): 3, 453-461.
- Dukes, H. H.: Physiology of Domestic Animals. Comstock Publishing Company, Ithaca, N.Y. 1942: 536.

### The Ophthalmoscope

Veterinarians have not adequately utilized the ophthalmoscope as a diagnostic instrument. It should be routinely employed when making a complete physical examination. Its use permits the clinician to study representative portions of the central nervous system and the blood vascular system. Effective use of the ophthalmoscope requires patience and persistence, and it should always follow administration of a mydriatic.—E. J. Catcott, D.V.M. (Ohio), at the Nineteenth Annual Conference for Veterinarians, Columbus, Ohio, June, 1950.

Silage from DDT-sprayed corn should not be used for dairy cows under any condition, says Earl Ronn, Iowa State College extension entomologist.

## Aureomycin Ointment Used in Infections of the Eye, Ear, and Skin in Dogs and Cats

HERBERT F. HARMS, V.M.D., HERBERT F. HARMS, Jr., V.M.D.,  
and GEORGE R. HARMS, V.M.D.

Pearl River, New York, and Closter and Emerson, New Jersey

IN SMALL animal practice, various preparations have been used routinely in the treatment of infections of the eye, ear, and skin. Many of these compounds have limited antibacterial activity, and some are merely palliative. Because it is difficult to determine specific agents in all infections, a preparation containing a drug with a broad bacteriostatic and bactericidal spectrum would prove valuable.

Aureomycin is a new antibiotic which is markedly active against a wide variety of both gram-positive and gram-negative bacteria.<sup>1-3</sup> Braley and Sanders<sup>4</sup> reported excellent results following the local application of aureomycin in ocular infections, including staphylococcal, pneumococcal, and *Escherichia coli* infections; influenzal and inclusion conjunctivitis; and other infections of unidentified etiology. These reports have prompted trials of local aureomycin therapy in small animals.

### CLINICAL USE

This report deals with the clinical use of aureomycin topical and ophthalmic ointments in otitis externa, conjunctivitis, blepharitis, and keratitis, various skin conditions, and infected wounds in dogs and cats. Symptomatic diagnoses, identified anatomically, were made in all cases. Table 1 summarizes the conditions and numbers of animals treated.

The ointment\* used contained 25 mg. of aureomycin hydrochloride per gram of ointment base. The preparation was applied directly to the involved area after it had been physically cleaned and dried.

### CASE REPORTS

*Otitis Externa.*—Seventeen dogs and 6 cats were treated for otitis externa. The majority of cases were classified as chronic. Some animals had been affected for as long

as two years, and previous treatment with sulfonamides and various ear preparations had been ineffective or had produced only temporary improvement. Several cases were suppurating ulcerative infections.

In all cases, the external ear canal was cleansed thoroughly with a dry cotton swab. Aureomycin ointment was then introduced into the ear canal once daily for five to fourteen days in 15 dogs and 4 cats. In 2 dogs less intensively treated, aureomycin was administered twice in four days and four times in fourteen days. The 2 remaining cats were treated twice a day for two days and three times a day for three days. In 15 dogs and 3 cats, there was complete clinical recovery in three to twenty-one days; and in 1 dog and 3 cats, there was marked clinical improvement in three to seven days. There have been no recurrences three to eight weeks post-treatment. In 1 dog with a typical suppurative infection, there was marked improvement after seven days of treatment. However, at the end of fourteen days, the same ear was again involved.

*Eye Infections.*—Conjunctivitis.—Five cases of chronic conjunctivitis in dogs were treated. After applying aureomycin ointment to the conjunctivae three times a day for two to four days, there was marked clinical improvement in two days, and recovery in one week in 4 animals. In the fifth dog, there was marked improvement after two days, but treatment was discontinued because of lack of ointment. Two of these cases had previously been treated with penicillin and sulfonamide ointments without effect.

Blepharitis.—Three dogs with blepharitis, 1 purulent and 2 complicated with conjunctivitis and sealy proliferation of the lids, were treated once or twice a day for two, five, and ten days. In all cases, there was prompt cessation of all symptoms.

Keratitis.—A diagnosis of keratitis was made in 1 dog. A foreign protein was ad-

\*Aureomycin hydrochloride ointment, topical, produced by Lederle Laboratories, Pearl River, N.Y.

ministered and aureomycin ointment applied three times a day for seven days. There was immediate clinical improvement followed by uneventful recovery.

**Corneal Trauma.**—Following the use of aureomycin once a day for six or seven days in 1 dog and 1 cat with infected corneal punctures, complete healing was evident in one week.

**Skin Conditions.**—**Dermatitis.**—Four

**Abscesses.**—One dog was presented for treatment with an abscess of two weeks duration on the leg. Debridement of the area was performed and the wound treated once a day for seven days, at which time there was complete healing.

**Ulcers.**—An aged dog suffering from a persisting, infected, subpubic ulcer of long standing was treated once a day for twelve days. Uneventful recovery followed.

TABLE I.—Conditions Treated with Aureomycin

Diagnosis	Animals treated (No.)		Results			
	Dogs	Cats	Recovered Dogs	Cats	Improved Dogs	Cats
Otitis externa	17	6	15	3	2	1
Blepharitis, conjunctivitis, keratitis, corneal trauma	10	1	9	1	1	—
Dermatitis, including eczema, and dermatophytosis	9	—	7	—	2	—
Infected wounds, abscesses, ulcers, infected anal pouches	11	3	11	3	—	—
<b>Totals</b>	<b>47</b>	<b>10</b>	<b>42</b>	<b>7</b>	<b>5</b>	<b>1</b>

dogs with dermatitis (2 acute uncomplicated, 1 purulent, and 1 complicated with secondary infection) were treated. Following application of aureomycin ointment once or twice a day for four to seven days, there was rapid clinical improvement and prompt healing of skin with normal hair growth in 2 dogs, and marked clinical improvement in 2.

**Moist Eczema.**—Two dogs with moist eczema covering the neck and shoulders were presented for treatment. In 1, the lesions were open and suppurating. A tannic acid preparation had been used previously without effect. Following treatment twice or three times a day for two and three days, there was rapid and complete recovery.

**Dermatophytosis.**—A diagnosis of fungus infection was made in 3 dogs. A salicylic acid preparation had previously proved ineffective. There was clinical recovery and healing of lesions after application of ointment once a day for four to seven days.

**Infected Wounds, Abscesses, and Ulcers.**—**Infected Wounds.**—Eight dogs and 3 cats with infected wounds were treated. Wounds were physically cleaned and, where abscesses complicated the condition, drainage was established. Aureomycin ointment was applied, usually once a day, for one to fourteen days. There was uneventful recovery in all cases.

**Infected Anal Pouches.**—One dog was presented for treatment with a history of recurrent infection of anal pouches. The glands were cleaned and ointment instilled twice in three days. There was uneventful recovery.

In no instance was there any evidence of toxicity, irritation, or allergic manifestation following the topical application of aureomycin. The number of treatments may have been excessive and the interval between treatments too short, but it was obvious that overtreatment was not harmful.

#### DISCUSSION

Post-treatment observation of cases treated is difficult. However, in this series, as far as possible, an attempt was made to treat only those animals whose owners had been clients for long periods. All owners had been requested to watch their animals carefully and to return them if they were not clinically recovered or if there was recurrence. None of the animals treated have been returned for these reasons in seven to eight months.

It is difficult to evaluate the efficacy of a drug on the basis of the small number of cases reported, particularly when the etiology is not definitely known, when the conditions, on occasion, recover spontaneously, and when the post-treatment observation period is limited. However, prompt healing, convenience, and avoidance of

complications are important. Excellent results were obtained in all cases treated and, in many instances, previous treatment with sulfonamides, penicillin, and other remedies had been ineffective. The favorable response noted in this series suggests the wider use of aureomycin ointment in the local treatment of cutaneous, aural, and ocular inflammatory conditions of animals.

#### References

- \*Price, C. W., Randall, W. A., and Welch, H.: Bacteriological Studies of Aureomycin. *Ann. N.Y. Acad. Sci.*, 51, (1948).
- \*Chandler, C. S., and Bliss, E. A.: In Vitro Studies with Aureomycin. *Ann. N.Y. Acad. Sci.*, 51, (1948).
- \*Little, P. A.: Use of Aureomycin on Some Experimental Infections in Animals. *Ann. N.Y. Acad. Sci.*, 51, (1948).
- \*Braley, A. E., and Sanders, M.: Aureomycin in Ocular Infections. *Ann. N.Y. Acad. Sci.*, 51, (1948); 280.

### Bovine Engorgements\*

When confronted with an overloaded, engorged rumen, packed with grain or other solid material, the manual removal by means of a rumenotomy gives the quickest, best, and safest results.—E. J. Frick, D.V.M., Kansas.

• • •

Most cases of engorgement or accidental overloading of the rumen in cattle can be handled successfully without bold surgery. Magnesium hydroxide (milk of magnesia), or a similar product in powder form, well diluted and given with a stomach tube, has produced very good results.—C. O. Petry, D.V.M., Indiana.

• • •

Cattle engorgements or acute overloading of the rumen with corn fodder, soy beans, mill feeds, or wheat, call for prompt action. Subcutaneous injection of 4 to 6 cc. of lentin (1:1,000) and 1 gal. of mineral oil by mouth, supported with antifermers and strychnine sulfate or nux vomica in black coffee, help. Surgical intervention is indicated when the animals are heavily loaded and exhibiting great distress.—E. F. Ebert, D.V.M., Missouri.

• • •

The treatment of engorgement depends upon the kind and amount of feed consumed and the condition of the animal when pre-

sented for treatment. When cattle are down, glucose and calcium gluconate injected intravenously are indicated, as are 1 gal. of mineral oil or 1 lb. of magnesium oxide or both. We also use 4 to 8 cc. of lentin (1:1,000) in the early stages. Rumenotomy is indicated in a case that is not too toxic. If over 50 lb. of ground feed or soybeans have been ingested, we send them to slaughter for these cases seldom recover.—F. B. Young, D.V.M., Iowa.

### The New York State Plan for Rabies Control

In a series of four-page printed leaflets under the title "Rabies Review" and beginning with July, 1949, the New York State Department of Health reviews the problem and the teamwork necessary to combat this disease.

After outlining the problem in the initial publication, successive monthly issues present: a rabies calendar for public education, an outbreak and its spread among wildlife, the role of the state government in rabies control, the role of the local government, the specific recommendations for the appointment of a rabies control committee, and the projects which it should promote.

The purpose of the leaflets, prepared under the supervision of Dr. Alexander Zeissig, was to acquaint New York State veterinarians with the problem and the program, but it would well serve any other state or county interested in rabies eradication.

### Treating Mink Diseases

"New Drugs and Methods Used in the Control of Mink Diseases" is the name of an interesting and informative article by T. J. Chattuck, D.V.M., Royal Mink Ranch, Bridgeport, Mich., in *The American National Fur and Market Journal* (Sept., 1950). The same information appeared in *The National Fur News* in two installments, September and August, 1950.

Anemia at birth is less dangerous than that which develops at the age of 2 to 4 weeks. The feeding of ferrous sulfate is viewed with alarm.—L. M. Hutchings, D.V.M., Indiana.

\*Notes from a symposium in the JEN-SAL JOURNAL, Sept., 1950.

## Diamond Skin Disease (Chronic Erysipelas) in a Turkey

E. H. PETERSON, D.V.M., Ph.D., and T. A. HYMAS, B.S.

Pullman, Washington

ACCORDING to Van Es and McGrath,<sup>1</sup> *Erysipelothrix rhusiopathiae* may be a cause of two distinct disease entities in swine—acute septicemic swine erysipelas and diamond skin disease. Udall<sup>2</sup> describes a third type which he terms "chronic erysipelas." Acute, septicemic erysipelas in turkeys is well recognized in the United States and other countries. A chronic form of the disease in that bird, corresponding to diamond skin disease in swine, appears not to have been described in the literature thus far. The following case report is of interest, since it appears to be



Fig. 1—Head lesions. Note the infected eye, the turgid caruncle, and the mass of necrotic tissue in the wattle.

the first observation of probable diamond skin disease in turkeys.

Early in April of this year, a Broad Breasted Bronze male breeder bird was submitted to the diagnostic laboratory for examination, the condition in the flock being described as a "sore-eye" infection.

Scientific Paper No. 922, Washington Agricultural Experiment Station, Institute of Agricultural Sciences, The State College of Washington, Pullman.

The right eye of the bird had been destroyed as the result of a chronic infection, the other eye was unaffected. Numerous small scabs were in evidence upon the unfeathered portion of the head, suggestive of fowlpox. The bird was confined for observation. Subsequent bird-inoculation tests and egg-embryo cultures were negative for fowlpox. At the end of approximately ten days, the bird was photographed and sacrificed for necropsy, its condition having steadily deteriorated.

The right eye was badly infected. The conjunctival cavity contained quantities of semisolid pus; the cornea was opaque. The caruncle was swollen and turgid from necrocytosis. The distal portion of the wattle contained a large necrotic mass (fig. 1). A large, thick, leathery, brown wheal, confined entirely to the cutaneous tissue and subcutaneous fascia, covered the entire breast (fig. 2). Similar, but smaller, lesions occurred on other portions of the skin, particularly about the angles of the wings. The soles of the feet and, to a lesser extent, the toes were necrotic, eroded, and swollen, the condition resembling moist gangrene (fig. 3). The proximal portions of the feet were gangrenous with secretion appearing between the cutaneous scales. The infection of the feet did not appear to be painful, for the bird was ob-

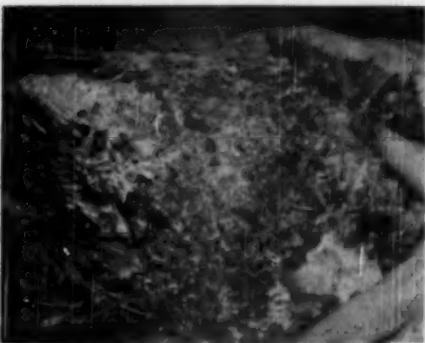


Fig. 2—Cutaneous lesion on breast.

served generally to be standing quietly, rarely sitting down.

Internally, the tissues appeared to be normal. Neither the visceral organs, the muscular tissue, nor the joint cavities appeared to be involved. All gross lesions were confined to the cutaneous tissue, the subcutaneous fascia, and the conjunctival cavity.

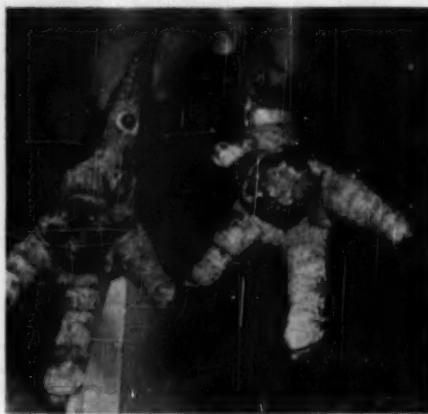


Fig. 3—Necrotic lesions of the toes and feet.

Because of the similarity of the lesions noted to those described for diamond skin disease in swine, chronic erysipelas was suspected. Cultures from the visceral organs upon blood agar were negative. Direct cultures upon blood agar from the necrotic areas described showed gross contamination. Portions of the gangrenous tissues removed from the caruncle, the wattle, the feet, and the breast were collectively ground in sterile sand, and macerated aqueous portions used for the subcutaneous inoculation of mice. Results were negative, since most of the rodents died from extraneous infections.

Portions of necrotic tissue were massively inoculated into tubes of serum broth containing crystal violet and sodium azide, according to the method of Packer.<sup>8</sup> No growth occurred in the tubes in which crystal violet and sodium azide were used jointly according to the recommendations. Growth did occur, however, in corresponding tubes in which only crystal violet, 1:100,000, or sodium azide, 1:1,000, were used separately. A further series of mice

was medicated with 0.025 per cent sulfamerazine<sup>9</sup> in the water, in order to secure protection against extraneous infections, and inoculated twenty-four hours later with materials from the broth cultures in which suspected growth of *Ery. rhusiopathiae* had taken place. The great majority of these mice died the third and fourth days, and an organism morphologically similar to *Ery. rhusiopathiae* was easily isolated from the livers. That the organism was the *Erysipelothrix* bacillus was confirmed by cross-immunization trials with poult, using a known strain of *Ery. rhusiopathiae*. It is postulated, therefore, that the clinical condition in the bird described was due, in all probability, to chronic erysipelas, the entity corresponding to diamond skin disease in swine.

Many birds in the flock from which the specimen originated had been affected with a sore-eye condition. (Figures on percentage incidence are not available.) Furthermore, numerous turkey breeder flocks in the state have been similarly affected during the past breeding season. Such a condition has not been observed in former years, at least not on so large a scale. While one can not state positively at the present time that the entire epizootic of infected eyes was due to chronic erysipelas, this theory appears plausible since no other rational explanation has been forthcoming, because the eye infection in the specimen secured was typical, and because some observers have reported the large scale administration of penicillin to exert some clinical benefit in birds so treated.

#### References

- 'Van Es, L., and McGrath, C.B.: Swine Erysipelas. Nebraska Agric. Res. Bull. 128, 1942.
- Udall, D. H.: The Practice of Veterinary Medicine. Geo. Banta Pub. Co., Menasha, Wis., 1939: 423.
- Packer, R. Allen: The Use of Sodium Azide ( $\text{Na}_3\text{N}$ ) and Crystal Violet in a Selective Medium for Streptococci and *Erysipelothrix Rhusiopathiae*. J. Bact., 46, (1943): 343-349.

**Rumen Microorganisms.**—The ultimate fate of rumen microorganisms varies between the extremes of complete destruction in the abomasum and passage entirely through the digestive tract of the host, according to a report by Pounden and his co-workers (J. Dom. Sci., Aug., 1950).

<sup>9</sup>Sulfamerazine has been shown in our laboratory to be inert against infection with the *Erysipelothrix* bacillus.

## Mixed Sulfonamides (Merameth) for Enteritis-Pneumonia Syndrome in Swine

R. H. WALKER, D.V.M., and E. V. EDMONDS, D.V.S.

Pleasanton and Oakland, California

THE ENTERITIS-PNEUMONIA syndrome is observed frequently in young swine maintained on ranches where uncooked garbage comprises the entire ration, as well as on farms where grain also is fed. Poor hygienic conditions are found on many garbage-feeding plants. Seasonal weather changes, too, may serve as a predisposing cause of the condition. Improved management of many swine herds undoubtedly would reduce the incidence of enteritis and/or pneumonia; however, this is difficult to bring about, in view of the type of personnel frequently employed on ranches in this area.

Sulfonamides have been valuable in the treatment of many bacterial infections among livestock. The selection of the most effective compounds and method of administration frequently are worked out by the veterinarian in the field. It is the veterinarian's obligation to make every effort possible to introduce and use the most effective method known to save livestock. This sometimes is a difficult challenge, in as much as the veterinarian's patients, and this is especially true of swine, often are difficult to handle and to treat, particularly when they are sick.

Sulfonamide compounds have been valuable in the treatment of sick animals, but their oral administration to some species presents a problem. Since these compounds can be prepared in solutions and administered parenterally, we decided to conduct a study, using swine, to determine the efficacy of the two compounds (sulfamerazine and sulfamethazine) that appear to have the most desirable pharmacologic characteristics in domestic animals. According to pharmacologic studies, sulfamerazine and sulfamethazine maintain good blood levels following a single dose in swine, as well as in many other domestic animals, for longer periods than do the other commonly used compounds.<sup>1</sup> These compounds

are safe when administered in therapeutic amounts to animals, as well as to human patients. Lehr<sup>2</sup> has indicated that combinations of sulfonamides are safer than are single compounds.

For these reasons, we selected merameth<sup>\*</sup> for use in our studies. A sterile solution was considered desirable for parenteral administration. Intraperitoneal administration of the preparation was considered the easiest and most effective route.

The clinical data included in this report were collected from 19 groups of swine maintained on seven different ranches. Herds 1, 2, 3, and 4, were fed raw garbage, while herds 5, 6, and 7 were fed a ration consisting of garbage and barley. In each of two herds, it was possible to maintain a small group of untreated control animals. These were selected and maintained at the same time that similarly affected groups were treated. The clinical condition was comparable to that in the animals that received treatment. It is regretted that we were not able to have control animals in each herd; however, the difficulty involved in doing this will be appreciated by those familiar with the economics involved. An owner usually wants all of his ailing animals treated, especially where he sees the prompt results evident in most of the treated groups. Postmortem examinations were made on dead or moribund animals on each farm prior to the time treatment was begun on sick animals. Findings in these animals and the clinical signs of disease were considered in establishing the diagnosis in each herd.

Table 1 includes pertinent data with respect to the animals included in this study. All had fever at the time treatment was instituted. Detailed temperature charts, however, were not kept. A total of 504 young swine, weighing between 20 and 140 lb., were treated. Of these, 472 (93.7%) recovered, while 32 (6.3%) succumbed.

Dr. Edmonds is veterinary livestock inspector, Division of Animal Industry, California Department of Agriculture, Oakland; Dr. Walker practices in Pleasanton, Calif.

\*Merameth is the trade name for a Sharp & Dohme preparation containing sodium sulfamerazine, 5 per cent, and sodium sulfamethazine, 5 per cent, in sterile solution.

The dosage of merameth in each case was 0.5 cc. per pound of the estimated body weight. The drug was administered intraperitoneally as an attendant held the animal in a more or less vertical position. The administration was made usually with a

ducted with 504 head of young swine suffering with an enteritis-pneumonia syndrome indicate that merameth (containing sodium sulfamerazine, 5%, and sodium sulfamethazine, 5%) is a useful chemotherapeutic agent. Intraperitoneal administration of a

TABLE I—Data on Swine Treated with Merameth

Herd	Animals (No.)	Approx. weight (lb.)	Diag.	Intraperitoneal treatment 0.5 cc./lb. body wt.				Results		Remarks
				1st day	2nd day	3rd day	4th day	Recovered	Died	
1	12	60-100	E-P <sup>a</sup>	+	+	— <sup>b</sup>	+	11	1	7 anim. also rec'd 4 Gm. sulfathalidine daily.
	33	50-90	P <sup>c</sup>	+	+	—	+	32	1	
	75	60-100	E-P	+	+	—	+	72	3	
	20	60-110	P <sup>c</sup>	+	+	—	—	20	0	
	5	100-140	P <sup>c</sup>	+	+	—	+	4	1	
Control	14		E-P	—	—	—	—	6	8	Chronic cases.
2	25	65	P	+	+	—	+	25	0	Recovered pigs unthrifty.
	10	20-30	P	+	+	—	—	10	0	
	15	20-30	P	+	+	—	—	14	1	
	30		P	+	+	—	+	25	5	
	Control	25	20-30	P	—	—	—	5	20	
3	16	60	P	+	+	+	—	16	0	
4	7	40	E-P <sup>c</sup>	+	+	—	+	7	0	4 chronic cases.
	7	80	E-P	+	+	—	—	7	0	
	25	50-80	E-P	+	+	—	+	23	2	
	106	40-80	E-P	+	+	—	—	100	6	
Total	504 treated							472(93.7%)	52(6.3%)	
Total	39 untreated							11(28.2%)	28(71.8%)	

<sup>a</sup>Enteritis-pneumonia.<sup>b</sup>Pneumonia.<sup>c</sup>+ = treated.<sup>d</sup>- = not-treated.<sup>e</sup>— Only 2 animals treated.

2-in., 14-gauge needle attached to a 50-cc. glass syringe. The necessary handling and the medication did not appear to distress most of the animals. Some of them showed evidence of distress for a short time (minutes) after administration of the drug. It is recognized, however, that herding and handling swine with pneumonia is not without some adverse effect. Thirty-nine untreated control animals were maintained in two herds used in the study. Of these, 11 (28.2%) recovered, and 28 (71.8%) succumbed. The animals in the control group that recovered remained unthrifty and did not develop into satisfactory marketable animals.

Some of the animals with severe diarrhea in herds 1 and 4 also received several daily doses of sulfathalidine (phthalyl-sulfathiazole), administered orally as 4-Gm. tablets. The value of this compound for the control of enteritis and/or diarrhea has been reported previously.<sup>3-6</sup>

#### SUMMARY

The results in these clinical studies con-

dose of 0.5 cc. of this solution per pound of body weight on the first, second, and fourth day of illness appeared to be adequate, since results were satisfactory in a high percentage of cases.

#### References

- Welsh, M., et al.: The Fate of 1/2 Gr./Lb. Body Weight of 7 Sulfonamides in 7 Animal Species Proc. 50th Ann. Meet., U.S.L.S.A., (1946):213-234.
- Lehr, D., Slobody, L., and Greenberg, W.: The Use of Sulfadiazine-Sulfathiazole Mixture in the Treatment of Children. *J. Pediat.*, 29, (1946):275-284.
- Graham, R., et al.: Studies on Porcine Enteritis. I. Sulfathalidine Therapy in the Treatment of Natural Outbreaks. *J.A.V.M.A.*, 106, (1945):7-13.
- Edmonds, E. V.: Use of Sulfathalidine (Phthalylsulfathiazole) in the Treatment of Enteritis in Swine. *J.A.V.M.A.*, 107, (1945):238-241.
- Edmonds, E. V.: Further Observations in the Use of Sulfathalidine (Phthalylsulfathiazole) in the Treatment of Enteritis in Suckling Pigs. *North Am. Vet.*, 27, (1946):364-366.
- Edmonds, E. V.: Sulfathalidine in Swine Enteritis: Further Observations Regarding the Management of Enteritis Among Feeder Pigs With Sulfathalidine. *Vet. Med.*, 42, (1947):170-173.

## Laboratory Techniques for Practicing Veterinarians

The modern veterinary medical practitioner realizes the importance of laboratory diagnosis in recognizing the parasitic diseases of animals, and his laboratory should be prepared to make the following examinations: (1) fecal examination for parasitic ova; (2) microscopic examination of skin scrapings; (3) examination of blood for microfilaria; (4) and examination of urine for parasite ova.—*F. R. Koutz, D.V.M., Ohio.*

## Placebos

If resort to placebos sometimes strains the clear conscience, it is not always without merit. In human medicine, they satisfy the sick and the worried family. In veterinary medicine, where emotional reactions probably are absent, there is always the anxious client to gratify. Confidence in the curative action of drugs, in all walks of life, and dosing with drugs at regular intervals is an expectation; failing to dose the sick as per custom would be ruinous to the best clinician's reputation.

Moreover, the copiously dosed patient is more likely to be nursed well. Not to dose may be regarded as equivalent to the doctor's withdrawal from his responsibility.

As an editorial in the *Journal of the American Medical Association* (April 18, 1950) emphasized, the benefits of inert drugs on the stomach have been scientifically proved by means of gastric fistulas. An additional indication mentioned is the use of placebos when laymen demand that prematurely acclaimed wonder drugs be prescribed for their ailments, whether indicated or not. Here, a placebo is the doctor's most utilitarian ally.

Not long ago, when penicillin was headlined in the newspapers, a farmer rushed excitedly into the presence of a neighbor's constipated cow insisting on the use of the wonder drug forthwith. Obediently, knowing the futility of giving a lecture on the pharmacodynamics of antibiotics in constipated cows, the doctor wisely gave the cow an injection of sterile water, regretting only the necessity of adding the price of penicillin to his fee in order to hide the deception. Immaterial as this may seem, this true story is an example of a

principle of chemotherapy brought about by the common misconception of medicine and the clinician's way of carrying his responsibility to successful ends peacefully. The editorial (*loc.cit.*) warns further of the need for the evaluation of new drugs and urges the curbing of enthusiasm for them on the basis of field use until they have been checked against placebos.

## Animal Allergy

Animal allergy is relatively common. A dog may manifest multiple allergies just as human beings do. Spayed females seem more susceptible than other dogs. One such spayed female developed a thin, watery, nasal discharge, stuffy nose, marked lacrimation, severe itchy dermatitis about the face and mouth, swelling and weeping of the skin. Her whiskers came out and she lost most of her hair from scratching.

Hypersensitiveness plays a role in the following diseases of animals: eczema (atopic and contact type); certain cases of pruritus; angioedema; urticaria; hemorrhagic colitis; hay fever; perennial allergic rhinitis; gastrointestinal allergy; bronchial asthma; stomatitis; certain cases of gastrointestinal toxemia, characterized by bloating, fermentation, diarrhea, and colic; heaves; serum allergy or shock and serum sickness; photodermatitis and other skin allergies due to cold or heat; drug allergies; mortal asphyxia due to anoxia; anaphylactic states and bacterial allergies of tuberculosis; glanders; and others.—*F. W. Wittich, M.D. (Minnesota), at the Nineteenth Annual Conference for Veterinarians, Columbus, Ohio, June, 1950.*

In some respects, parasitism in animals is like the parking meter in a big city. It is an insidious type of taxation. The parking meter takes nickels and dimes which make dollars. The parasites take a little nourishment here and a little nourishment there, and they count up into dollars by reducing the rate of gain and the efficiency of feed use.—*R. D. Turk, D.V.M., Texas.*

The calf scours-pneumonia complex among calves in Wisconsin is chiefly a virus disease, says T. Moll, D.V.M.

### Causes of Baby Pig Troubles

The ailments of young pigs farrowed and reared indoors are commonly due to cold, damp, and drafty quarters. The better health of pigs farrowed and reared out-of-doors may depend upon access to iron and unknown nutrients in the soil or grasses, as well as to the greater comfort of their living quarters.

The most constant pathologic findings reported by the authors were presence of ascitic fluid or peritoneal adhesions and gross changes in the liver.—*J. Path. and Bact.*, 61, 1949.

### Histoplasmosis

Following publication of "Histoplasmosis in a Cat" by R. S. Akün in the July, 1960, JOURNAL (p. 43), the following letter was received from Dr. Robert W. Menges, University of Kansas Medical Center, Kansas City: "We feel that there is some doubt that this was actually histoplasmosis. The photographs do not show any clear-cut yeast cells of *Histoplasma capsulatum*. In figure 1 (B, 1), no yeast cells seem to be present, and the so-called yeast cells in figures 1 (B, 2) are not typical of the fungus in question. We feel that it is necessary to culture tissues and isolate the fungus to confirm a case."

Attention is further called to the fact that histoplasmosis is not always a fatal disease. A review in *Public Health Reports* (Aug. 4, 1950) lists some 16 cases of human histoplasmosis of which 6 were reported to have recovered, and the same publication (May, 1950) reported a non-fatal case of experimental histoplasmosis in a dog.

Dr. Menges further believes that "It is quite probable that histoplasmosis is especially found in the United States because it has been studied more here." He says also, "Not all the animal cases have been in dogs. *Histoplasma capsulatum* has been isolated from 19 cats (Emmons), a house mouse, brown rats, roof rats, spotted skunks, and an opossum. One case was reported in a colt, but the diagnosis was made by identification of the fungus in sections of lung tissues."

Dr. C. W. Emmons of the National Institutes of Health (*Transactions of the New York Academy of Sciences*, May, 1949)

says, "A surprising feature of histoplasmosis in the cat is the limited extent of the lesions. *Histoplasma* was isolated from the spleen in only 1 animal of 5. In the other 4 the only isolation was from one or more of the cervical lymph nodes." These were the only positive cases found among 49 cats cultured.

Dr. Menges concludes, "We do not believe that *H. capsulatum* is an *obligate parasite*. It has been isolated from soil, and we have been able to grow the fungus on soil and bark."

[An associate editor of the JOURNAL is in full agreement with Dr. Menges in these statements and corrections. They are published here in order to bring members and readers up to date on this new but growing problem of veterinary medicine.—ED.]

### Canine Giardiasis Treated with Atebrin

The flagellate *Giardia canis* must be considered when making a diagnosis in cases of dysentery and diarrhea in dogs, especially puppies. They may be present as primary excitants or as secondary invaders. Animals responded favorably to administration of atebrin. (This substance is not definitely identified but seems to belong with quinine, atabrine, quinacrine, and other antimalarials.) The drug was fed to dogs of the larger breeds at the rate of 3 gr. three times a day for the first day, then twice a day for six days. In smaller dogs, half this dose. Sodium bicarbonate given concurrently helps to avoid gastric upset.—*Canad. J. Comp. Med. and Vet. Sci.*, July, 1950.

*Iodine Poisoning*.—In dosing animals with iodides (potassium, sodium) over a long period in the treatment of chronic ailments, danger from iodism should be kept uppermost in mind. Over-running the borderline of safety is expressed by lacrimation, ptalism, eyelid edema, exophthalmia, wirelike coat on neck and back, cough, respiratory distress, tachycardia, fever, leading to sudden death.—*Observation of Tavernier, Rev. de méd. vét., May, 1950*.

Phosphorus deficiency in pigs may interfere with proper immunization against hog cholera.

## Removal of the Fringed Tapeworm from Sheep

J. F. RYFF, D.V.M., JO BROWNE, D.V.M., H. L. STODDARD, D.V.M.,  
and RALPH F. HONESS, B.S., M.S.

Laramie, Wyoming

IN A PREVIOUS report,<sup>1</sup> the efficiency of bis (5-chloro-2-hydroxyphenol) methane<sup>2</sup> against the fringed tapeworm of sheep, *Thysanosoma actinoides*, was demonstrated. In order to determine the optimum dosage level of the drug, the same general procedure was resorted to. A muslin apron arrangement was used to collect the fecal output for five days. The feces for each approximately twelve-hour period during this interval were washed in water, the pellets removed, and the remainder washed through an appropriate screen. Finding of fringed tapeworm proglottids was taken as indicative of infection and only such sheep were employed in testing the drug.

For each dosage level, 3 sheep were employed; 10, 15, and 20 per cent suspensions, as well as tablets in capsules, were used. At upward of four days after treatment the sheep were slaughtered, and the bile ducts, pancreatic duct, and small intestine were examined for the presence of the fringed tapeworm. With the sheep on full feed when dosed, only 1 of 3 treated with 0.2125 Gm. of diphenthane-70 per pound of body weight retained the fringed tapeworm; at 0.25 and 0.3 Gm. per pound of body weight levels, no *Thysanosoma* were recovered from either group. This would indicate that removal of the fringed tapeworm could be expected at a dosage level of 0.25 Gm. per pound of body weight without removing the sheep from feed. While sufficient small lambs have not been available to complete the problem, it has been our impression that small, 20- to 40-lb. lambs require a greater amount of diphenthane-70 per pound than larger sheep. In

This work was aided by a grant from Pieman-Moore Co., Indianapolis, Ind.

From the Wyoming State Veterinary Laboratory, Laramie (Ryff, Browne, and Stoddard); and University of Wyoming and Wyoming Agricultural Experiment Station, Laramie (Honest).

Ryff, J. F., Honest, Ralph F., and Stoddard, H. L.: Removal of the Fringed Tapeworm from Sheep. J.A.V.M.A., 115, (1949): 179-180.

<sup>2</sup>Supplied by Pieman-Moore Co., Indianapolis, Ind., as diphenthane-70 (20% suspension); tianitol (15% suspension); and tenithane (0.5 Gm. tablets).

this respect, at the 0.2 Gm. per pound level, such lambs had a number of fringed tapeworms after treatment; but, at 0.4 Gm. per pound, only 3 fringed tapeworms were recovered from 1 of the group of 3



Courtesy, G. R. Bach, D.V.M., Indiana

Fig. 1—Liver and related organs of sheep infected with *Thysanosoma actinoides* (fringed tapeworm).

sheep. While a studied attempt to learn the lowest dosage level necessary to remove *Moniezia* was not attempted, results on a few sheep where concurrent infection with the broad tapeworm occurred would indicate that 0.04 Gm. per pound of body weight was sufficient.

When this same procedure was followed, except that the sheep were held off feed for twenty-four hours before treatment dosed, and then returned to feed after a

variable period, the amount of drug necessary was greatly reduced, so that 0.05 Gm. per pound of body weight might be considered a practical level for the removal of the fringed tapeworm. Under these con-



—Courtesy, G. R. Burch, D.V.M., Indiana

Fig. 2.—Fringed tapeworm in liver of sheep.

ditions, the fringed tapeworm was found in 2 of 3 sheep at the 0.045-Gm. level, none were recovered from the 0.05-Gm. per pound group, and 1 of the 3 sheep receiving 0.1 Gm. per pound harbored 3 *Thysanosoma* only. Here again, small lambs of 30 and 40 lb. retained *Thysanosoma* after treatment with 0.05 Gm. of diphenthane-70 per pound.

The extent of damage to the host by the fringed tapeworms is debatable, but their presence in the liver of sheep coming to slaughter causes the condemnation of the liver. The highest liver condemnation observed when the sheep in table 1 were followed through to slaughter was 24 per cent, but liver condemnations may run as high as 65 to 85 per cent in some lots of western lambs. When it is considered that a lamb's liver is currently worth 40 cents to the meat packer, treatment of sheep harboring the fringed tapeworm may be worthwhile on this basis alone.

#### CONCLUSION

Testing various levels of bis (5-chloro-2-hydroxyphenol) methane on groups of 3 sheep found to have *Thysanosoma acti-*

TABLE 2—Liver Condemnations Due to *Thysanosoma* Infection in Six Groups Treated with Tenitol at 0.04-Gm. per Pound After Twelve to Twenty-Four Hours Without Food

Head in Lot each group	Liver condemnations (%)
9 936	6.0
10 1000	5.0
11 612	9.5
12 453	4.5
13 246	5.6
14 208	5.2
Ave. lots 9, 10, 11, 12, 13, and 14: 3,455 sheep	5.3

*noides* infection by proglottid recovery, 0.25 Gm. per pound of body weight for sheep on feed, and 0.05 Gm. per pound after twenty-four hours of starvation, were found effective in removing the fringed tapeworm. Small lambs of 30 to 40 lb. required more per pound, so that a practical dosage level for lambs on feed was 0.4 Gm. As little as 0.04 Gm. per pound on a few unstarved sheep seemed sufficient for the removal of Moniezia. When 3,455 lambs treated with 0.04 Gm. per pound after twelve to twenty-four hours of starvation were followed to

TABLE 1—Liver Condemnations Due to *Thysanosoma* Infection in Eight Lots of Fed, Wyoming Lambs Followed to Slaughter

Lot	Liver condemnations (%)
1 683 head treated with tenitol at 0.045 Gm./lb., unstarved.	6.35
2 58 head treated with proprietary drench.	17.2
3 219 head treated with proprietary drench.	12.3
4 195 untreated and from same general area as lots 1, 2, and 3.	24.1
5 501 untreated.	16.7
6 222 untreated (Cheyenne and Douglas area).	15.5
7 400 untreated (Cody area).	11.2
8 77 untreated.	16.8
Average of lots 4, 5, 6, 7, and 8: 1,396 sheep.	16.8

slaughter, 5.3 per cent of the livers were condemned due to *Thysanosoma* infection as compared with 16.8 per cent for 1,396 untreated sheep. Of 683 head treated, unstarved, with 0.045 Gm. per pound, the liver condemnation was 6.35 per cent; untreated sheep from the same area had a 24.1 per cent condemnation; and two lots from this area that were treated with proprietary drenches had 12.3 and 17.2 per cent condemnations.

### Mucoid Brucella Vaccination

A panel on this subject at the Northern Illinois Veterinary Medical Association meeting at Rockford, Ill., Sept. 27, 1950, reached the following conclusions:

Mucoid vaccine has demonstrated that it does impart immunity, that it does stop the spread in a newly infected herd, and that it will do no harm.

The dose is 1 cc. and it may be used at any age, in either sex. In negative animals the low titer will persist for only thirty days in most cases and up to ninety days in the longest cases. Unfavorable results are rarely seen. Subcutaneous injection behind the scapula is preferable to injection in the neck.

### Bruceilosis and Its Relationship to Sanitary Milk Control\*

Bruceilosis presents two distinct problems, the human or public health problem and the economic or livestock public health problem. The former will be eliminated when the latter has been solved, because bruceellosis in man seldom, if ever, is transmitted from one person to another. Most human cases are found among livestock handlers, packing house workers, especially those handling pork, veterinarians, laboratory workers, and consumers of raw milk.

In New York, 76,000 herds containing 1,047,000 calves have been vaccinated during the past six years. This is about two thirds of the herds and two thirds of the calves raised in the state during that period.

Veterinarians and breeders are agreed that storms of bruceellosis have been prac-

tically eliminated by this wide vaccination program, even though it does not approach 100 per cent. Even so, it must be remembered that much still remains to be done in bruceellosis control, and that veterinarians, sanitarians, and livestock owners must be eternally vigilant to guard against increase of the disease.

The veterinary profession in assuming its responsibility in bruceellosis control is rendering a great economic service to the livestock industry and is protecting the public from one of the major diseases of animals communicable to man.

### Brucellosis Picture Is Brighter

Figures released by the U. S. Bureau of Animal Industry show a very definite trend for the better in bruceellosis eradication, says *Hoard's Dairymen* (Sept. 25, 1950), editorially. "The greatly expanded use of calfhood vaccination, the continued regular use of the blood test, and the exercise of good judgment and perseverance give us reasonable assurance that the task of lifting the bruceellosis burden is not at all impossible but rapidly becoming a reality."

### Cooperation of Veterinarians Essential

In an editorial comment concerning a county dairy meeting in Wisconsin, *Hoard's Dairymen* points out that the dairymen concluded that the most vital problem in bruceellosis control was restricting the sale and movement of reactors, in so far as this serves as protection of clean herds. The editorial continues: "These men told how unscrupulous auction companies, cow jockeys, and dairymen had defrauded buyers through false testing, switching eartags, and other illegal means. A few veterinarians could be counted on to cooperate in these schemes."

It is a sad commentary on our profession that even one veterinarian should be included among the list of those who deliberately try to circumvent the meaning and spirit of so important a field as disease eradication.

A successful program of bruceellosis eradication must protect the clean herds from exposure to the disease.

\*Notes from a paper by Dr. J. L. McAuliff, Cortland, N.Y., presented at the thirty-seventh annual meeting of the International Association of Milk and Food Sanitarians, Atlantic City, Oct. 13-16, 1950.

### Tracing Tuberculous Cattle from Postmortem Findings

If the livestock industry desires to reap the full benefits of tracing all diseased animals, it should arrange to identify positively all mature female cattle for slaughter. This will require coöperation of livestock handlers, state and national livestock sanitary officers, speculators, livestock exchange organizations, and legislators, as well as the livestock owners themselves. When such positive identification is supplied, the veterinarians who act as meat inspectors are able to refer back to the farm of origin so that an incipient outbreak of tuberculosis may be nipped in the bud.

Such coöperation and tracing is necessary to accomplish complete eradication of tuberculosis. Early results along this line were rapid and encouraging. In 1917, when the first real impetus was given to the tuberculosis eradication program, approximately 5 per cent of the cattle tested in the United States were reactors. From 1922 to 1940, the premises found to be infected ranged from a high of 12 per cent in 1926 to a low of only 2 per cent in 1936. In 1949, the Bureau reported 0.19 per cent of all animals tested as reacting.

Since that time, however, there has been a slight increase in the percentage of reactors. Because of this increase, sanitary officials are becoming concerned over the increase and the number of reactors being brought to light through systematic testing in certain areas within recent years. This rise in percentage of reactors has come about gradually through the lethargy of some livestock sanitary officials, livestock owners, legislators, and veterinarians, in addition to the shortage of veterinary personnel during the last ten years.

The Meat Inspection Service disposes of the carcasses of reactors in compliance with the principles of meat hygiene. Inspectors can also help the eradication program by tracing to the farm of origin all affected but untested or nonreacting cattle found on postmortem inspection. This work is facilitated through the prompt and careful filing of Form 11-C. Unfortunately, a large share of animals found to be diseased on postmortem inspection have lost their identity (purposely or otherwise) in passing through numerous sales barns, stockyards, auction sales, and speculators' hands

on their way to the slaughtering plant. The Federal Meat Inspection Service is eager to assist in completing the eradication of all contagious and infectious diseases of livestock; it proposes to continue its effort to do so and solicits the aid of all livestock owners and handlers who can provide information which will permit the locating and condemning of diseased animals at an early stage in the infection.—*O. W. Seher, D.V.M. Chicago, Ill.*

### Avian Tuberculosis in Swine

The incidence of tuberculosis in cattle has declined steadily each year since 1925, but the incidence of tuberculosis in swine has failed to show a corresponding decrease, says Dr. J. S. Bengston, veterinarian in charge, BAI Branch Pathological Laboratory, Chicago, in a recently prepared mimeographed release. Because the gross appearance of avian tuberculous lesions in swine is usually quite different from that of bovine tuberculosis, Dr. Bengston has described in detail both the gross and microscopic appearance of avian tuberculous lesions in the lymph glands, liver, spleen, lungs, kidneys, and skin of swine.

This mimeographed leaflet will be helpful to veterinarians. A copy may be obtained by addressing the author or the Bureau of Animal Industry, Washington 25, D.C.

### Progress in Tuberculosis Eradication

During the past twenty years, tuberculosis in cattle has been reduced 99.5 per cent, in hogs 68 per cent, in chickens 55 per cent. This has resulted in a 90 per cent reduction of the animal type of tuberculosis in human beings. According to the Sioux City Live Stock Sanitary Committee, keeping only pullets for egg production will control avian tuberculosis and will greatly reduce the amount of porcine tuberculosis which is largely of avian origin.

**Brucellosis Revaccination.**—When calves, vaccinated at 8 months of age, were revaccinated at 14 or 20 months, there appeared to be little or no increased resistance to Brucella infection. Animals well advanced in pregnancy were more likely to remain reactors to the blood test than those in the early stages or those open at vaccination.—*University of Wisconsin Vet. Bull.*

# NUTRITION

## Wheat Poisoning in Cattle

Wheat poisoning is known locally as grass staggers, railroad sickness, and grass tetany. It occurs during the fall and early spring on the south plains when cattle are grazing wheat from late September until the following March.

Wheat farmers receive from \$3.00 to \$5.00 per head per month as grazing lease for their wheat land. Cattle so grazed are not fed except when the wheat is covered with snow. They make excellent gains, up to  $2\frac{1}{2}$  lb. per day.

*Predisposing Factors.*—The condition develops only when the cattle have been on wheat pasture for thirty days or longer, usually from sixty to ninety days. Symptoms are first seen in cows in advanced pregnancy or in early lactation. Open heifers and steers seldom show symptoms earlier than four months. Involuntary exercise and excitement are important factors in bringing on the symptoms. They appear after cattle are loaded on rail cars and trucks for shipment to market, and losses as high as 20 to 40 per cent in transit have been reported.

The condition is seen occasionally also in cattle that are grazed on rye, oats, barley, Austrian winter peas, and Bermuda grass.

*Etiology.*—Wheat is extremely nutritious, containing 20 to 26 per cent of protein and a very high per cent of calcium, phosphorus, and potassium at this stage of growth. The sodium percentage is very low. In general, wheat is equal to alfalfa as far as availability of calcium is concerned.

With the advance of wheat poisoning, the blood sugar level drops progressively from a normal of 80 to 120 mg. per 100 cc. of blood until it levels off at about 50 mg. per 100 cc. Hypoglycemia develops when the blood sugar level drops below 40 mg.

The normal calcium blood level is be-

tween 9 and 12 mg. per 100 cc. The hypoglycemia is also accompanied by hypocalcemia and hypomagnesemia. Calcium levels may drop as low as  $3\frac{1}{2}$  mg. and magnesium levels as low as 2 to 3 mg. per 100 cc. of blood.

When a variety of minerals was fed free choice, the results were what might have been expected when no mineral was furnished except salt.

The normal magnesium : calcium ratio is about 1 : 3.5, in wheat poisoning the ratio is about 1 : 14. This disturbance in mineral metabolism is believed to be the factor responsible for the increase in excitability and tonicity of the muscles. When large amounts of potassium chloride are injected intravenously into cattle, symptoms essentially the same as those of wheat poisoning are produced. On good wheat pasture, the average cow consumes around 300 gr. (10 oz.) of potassium nitrate per day.

Low magnesium blood level causes nervous excitability while low calcium level and high potassium level result in unconsciousness.

*Symptoms.*—The symptoms of wheat poisoning are similar to those of milk fever, except that the paralytic stage is preceded by extreme excitement and incoordination. This excitement stage is much more intense and is longer than in milk fever cases. Many cases of wheat poisoning will attack or will attempt to attack a human being. There is also grinding of the teeth, champing, twitching of the ears, and tetanic contraction of the muscles, particularly of the membrana nictitans. The head is drawn back, the heart beat is pounding and fast before paresis sets in. Cyanosis develops in animals down an hour. The cell volume of the blood instead of being 30 per cent, as normally, frequently is as high as 45 per cent. Many cows in advanced pregnancy abort within twelve to forty-eight hours following successful treatment.

Excerpts from a paper by H. E. Redmond, D.V.M., College Station, Texas, in the *Southwestern Veterinarian* (March, 1950).

*Postmortem Findings.*—Small hemorrhages on the surface of the heart, a brownish red muscle tissue, small cysts in the kidneys, and microscopic sections reveal stoppage of the tubules with calcium deposits.

*Treatment.*—Calcium gluconate will bring about recovery in a very few minutes. This recovery will last longer if the calcium gluconate is fortified with 8 to 10 gr. of magnesium sulfate or magnesium chloride. These solutions must be given very slowly because of the danger of heart block. Usually fifteen to thirty minutes is spent in injecting 500 cc. of the solution into the veins of affected cows. Treatment is most effective when given immediately to cows that are down or before they go down, because cows that are down or that have been down respond much more slowly and these benefit also by large intravenous injections of normal physiologic saline solution—5,000 to 8,000 cc. Animals lose weight rapidly. A big, fat cow may lose 200 lb. within a week. Often  $\frac{1}{2}$  to 1 gr. of apomorphine will start these animals eating again. Occasionally, the injection of coramine to stimulate the heart and the respiratory organs is indicated, along with the intravenous injections.

### Iron Metabolism and Erythrocyte Formation

Single tracer doses of radioactive isotopes, Fe55 and Fe59, were used in 9 normal male volunteers (*Nutr. Rev.*, March, 1950: 76-78). That the iron was used promptly is indicated by the fact that tagged erythrocytes began to appear in the circulation within twenty-four hours. They continued to increase in numbers for two to three weeks, and by the end of the fifteenth day 74 per cent of the injected radio iron was found in the circulating erythrocytes.

The same type of experiment with iron-deficient patients indicated a more rapid and complete utilization of the iron. On the other hand, radio iron in patients with hemochromatosis showed that these persons used the iron much less effectively; in fact, it did not exceed 20 per cent.

The general conclusion is that the utilization of iron in blood formation is inversely proportional to the extent of the iron stores present in the body.

Patients with anemia and depressed bone marrow activity, as well as patients suffering from uremia, showed a marked impairment of iron utilization and the degree of impairment seems to be parallel to the degree of the pathologic condition present.

Single injections of radio iron have also made it possible to study more effectively the production and destruction of erythrocytes. It was shown, for instance, that tagged red cells appear very promptly after the injection. At 110 days, 50 per cent of the radioactive erythrocytes had disappeared from the circulating blood, indicating a red cell turnover of approximately 1 per cent per day. This life span was similar to that in patients suffering from pernicious anemia but being treated with liver extract. When iron deficiency is present, the survival period of erythrocytes is shorter.

Upon destruction of the erythrocytes, the hemoglobin is broken down, but the iron does not enter into exchange with other iron compounds of the body. Instead, it enters a body pool where it is ready for re-synthesis of hemoglobin in new erythrocytes.

### Thyroxine Feeding

Indications are that from a physiologic and economic point of view, thyroxine will not be such a dramatic help to dairy production as some had anticipated, according to Professor G. W. Trimberger, Cornell University, in *Guernsey Breeders Journal* (Oct. 1, 1950). The established dose is 15 Gm. of thyroxine daily. More than this amount works an additional hardship on the cow. In general, this dosage means a 25 per cent increase in feed intake; not all of the increase is used for additional production, because all of the body activities are speeded up also.

The present status is such that the feeding of thyroxine cannot be recommended except for commercial herds in which cows are sold for slaughter as a regular procedure after one or two lactations.

When cows were sprayed four or five times a week with DDT, the milk from these cows when sprayed on flies, killed them.

---

## EDITORIAL

---

### Hemolytic Maladies of Newborn Animals

The nearest thing in domestic animals to the Rh factor of the human being and certain anthropoids is the hemolytic debacle of newborn Equidae, described under various names in recent veterinary medical literature but most commonly referred to as hemolytic icterus or as sleeper foal.

Early reports on the jaundice which developed in newborn foals suggested that an Rh-like factor might be present in the red blood cells of foals from certain matings. It was apparent that certain mares were sensitized to the erythrocytes of some stallions, and that the icteric foals resulted from matings of such animals. Next, it was observed that colostrum exerted a toxic reaction on these foals, indicating that the causative agent was present in this "first milk" which had been universally regarded as the perfect guardian of the newborn animal.

It is known that agglutinins are present in colostrum, and that sometimes these agglutinins react upon the blood of the foal. This occurs when the mare has been sensitized to the erythrocytes of the stallion which sired the foal, and has transmitted the stallion's type of cells to the offspring. In such instances, the serum as well as the colostrum of the mare will agglutinate the erythrocytes of the stallion. When the foal's erythrocytes are of the same type as its sire, then the colostrum from the dam will agglutinate the erythrocytes of her own offspring. The reaction, however, differs from that observed in erythroblastosis fetalis in human infants.

Some shrewd breeders learned that toxicosis and icterus of horse and mule foals could be prevented — or, at least, did not develop — if the "first milk" of the dam was withheld from the young. Now we have a simple and logical explanation on a basis of pure science.

From that point onward, practical application was rapid. It was postulated that withholding the colostrum prevented the

agglutination and destruction of the erythrocytes which produced the outward appearance of icterus or jaundice. A few trials showed that hand-stripping the mare hourly for twenty-four to forty-eight hours reduced the agglutinin content of the colostrum to a point where it would no longer cause agglutination and icterus in the foal.

Another short, easy step was to cross check the serum of the mare and the erythrocytes of the stallion to determine which matings might produce icteric offspring. Then the mare could either be mated to a stallion against which no agglutinins had been produced, or the imminent appearance of icterus following ingestion of colostrum could be predicted and avoided by withholding colostrum.

Now, our knowledge of the composition of mare's colostrum is being amplified beyond the bare elementary facts about its basic composition (water, sugar, fat, albumin, special cells, etc.). Its biochemical, biologic, and nutritional values are being discovered.

Study on the foal moves forward, also. For example, it has been learned that, although the digestive mucosa presents a wide-open avenue for absorption during the early hours of life, this same mucosa soon develops powers which restrict absorption of certain substances and exclude others entirely.

Work in the human infant suggests (*J. Am. M. A.*, Sept. 9, 1950) that the Rh factor may be a hapten—a biologic fraction capable of forming antibodies *in vitro* but not *in vivo*. If this proves true, solution of the problem is near.

All in all, the recent research work on this group of hemolytic maladies has emphasized the potential dangers of colostrum which counterbalance the protective properties recognized and utilized for many years. The studies have served to complicate the already devious ramifications of the study of reproduction, nutrition, growth, and

normal development. They also emphasize anew the absolutely essential nature of accurate diagnosis as a basis for logical treatment.

### Benjamin J. Killham 1885—1950

Dr. B. J. Killham, associate professor and extension specialist at Michigan State College since 1930, died at East Lansing on Oct. 12, 1950.



Dr. B. J. Killham

Born at Chicago, Ill., Nov. 18, 1885, he graduated from high school in 1904 and from McKillip Veterinary College (D.V.M.) in 1912. Upon his graduation, he practiced at Independence, Iowa, for one year, then joined the staff of the Bureau of Animal Industry, U. S. Department of Agriculture, to work in meat inspection, educational programs, regulatory procedures, and control and eradication of tuberculosis and brucellosis. In 1921, he resigned from this post to become state veterinarian of Michigan, a position he held until he became a member of the faculty of Michigan State College. In his position as extension specialist, his voice was widely heard at meetings and on the radio, for he coordinated the efforts of veterinarians, livestock owners, and the School of Veterinary Medicine. He was to have retired at the close of the current fiscal year, June 30, 1951.

His contributions to the advancement of veterinary medicine are great, but the true measure of his sterling qualities was as a

man. In his quiet way, he carried the spirit of progress of his chosen profession not only to his colleagues, but also to owners of domestic animals. By example, he established veterinarians on a high plane wherever he appeared.

Besides his regular work, Dr. Killham was always engaged in activities for the betterment of veterinary medicine. Joining the Michigan Veterinary Medical Association in 1919, he was elected president in 1924, and had been secretary-treasurer since 1942. He served as chairman of the Veterinary Procurement and Assignment Service for Michigan from 1941 to 1945, and was active in the current renewal of this service. In 1917, he joined the AVMA and served on committees and as resident secretary at various times through the years. He was general chairman of the local committee for the eighty-sixth annual meeting of the AVMA at Detroit in 1949, and was elected Executive Board member from District X (Michigan and Ohio) the same year.

He is survived by his widow, *née* Ethel Frame; a daughter, Mrs. Robert D. Cross, of Raleigh, N. Car., and two grandchildren, Michelle and George Cross.

The full record of his service cannot be written on paper, but it has been indelibly engraved in the minds of his associates.

### Overcrowding

Were the far-cry about the fear of overcrowding the veterinary profession with personnel drowned out by louder shouting to put veterinarians in the many places rightly belonging to them, the danger of graduating more than the country can absorb would not exist.

According to Professor Law's estimate of 1879, we should now have 50,000 instead of 15,000 veterinarians. The estimate was not far-fetched. The jobs for the other 35,000 are now filled by laymen. The systematic, longtime program which ought to have been instituted to provide the country with the estimated quota never materialized. Difficult as it may seem, is not a program to preserve veterinary medicine for veterinarians the profession's Problem No. 1? A planned effort to solve it should not go unrewarded.

Needless livestock losses in shipping is throwing away money intentionally.—*National Live Stock Loss Prevention Board.*

# CURRENT LITERATURE

## ABSTRACTS

### Leptospirosis in a Dog

The patient, a 7-year-old Alsatian showing bilateral iridocyclitis and no prodromal symptoms, was presented ten days after first ocular symptoms were noted. Detailed examination disclosed multiple posterior synechiae, strong pericorneal injection, and a slight turbidity of the corpus vitreum. The dog could hardly distinguish between light and dark. There were no indications of jaundice or nephritis. The agglutination blood titer with *Leptospira canicola* antigen was 1:20 at the beginning of the disease, but went up to 1:160 within two weeks.

Because of the chronicity of the condition, treatment with penicillin and aureomycin was unsuccessful, but the symptoms cleared up under local atropin treatment.—[F. G. Sulman: *Ocular Leptospirosis in a Dog*. *Refuah Vet.*, April, 1950.]

(The reviewer questions the significance of this report since diagnosis is based solely on the agglutination test. However, it does suggest the routine agglutination testing in dogs showing ocular symptoms.)—M. ERDHEIM.

### Enzootic Abortion in Goats

This is a report of abortion in 102 goats in a herd of 263. The abortions occurred in goats three to four and one-half months pregnant. Agglutination tests with *Rickettsia burneti* antigen were positive in dilutions of 1:40 to 1:320. [Enzootic Abortion in Goats Caused by *Coxiella Burnetti*. *Schweiz. Archiv. f. Tierheilk.*, Sept., 1949.]—M. ERDHEIM.

### Swineherd's Disease (Leptospirosis) in Israel

This is a report of 5 human cases showing typical symptoms of Weil's disease—fever, icterus, muscular pain, and vomiting, with a duration of ten to seventy days. All affected individuals worked around the hog pens which suggested *Leptospira pomona* as a possible cause. Blood from 2 of the sick men agglutinated *L. pomona* antigen 1:100 and 1:200 ten weeks after onset of symptoms. There was no agglutination with other antigens at the time of illness or later. This is the first report on *L. pomona* in Israel; earlier cases were reported only from Australia, Switzerland, northern Italy, and Holland.

In 1949, examination of serum from 96 pigs in Israel showed no agglutination with *Leptospira*

*boris* and *Leptospira grippotyphosa*, but two samples were positive to *Leptospira icterohemorrhagiae*, and 48 samples were positive to *L. pomona*.—[R. Sandler: *Swineherd's Disease—Leptospirosis—in Israel*. *Refuah Vet.*, reviewed in *Refuah Vet.*].—M. ERDHEIM.

### A Survey of Scandinavian Literature

The following items were gleaned from the *Nordisk Veterinærmedicin*, 1, (1949), by A. G. Karlson, D.V.M., Rochester, Minn.—Ed.

*Deficiency Causes Paralysis in Pigs*.—A progressive paralysis was noted in certain groups of pigs. It started in the limbs and in twenty-four hours affected the respiratory muscles and caused death. Necropsy findings were restricted to atony of the gastrointestinal tract and signs of circulatory failure. The condition was believed to be due to deficiency of vitamin B<sub>1</sub> because, in the early stages, administration of thiamine hydrochloride relieved the symptoms (April, 1949:524-537).

\* \* \*

*Newcastle Disease in Sweden*.—The atypical foulpest of Europe was shown to be identical with Newcastle disease by hemagglutination-inhibition, neutralization, and cross-immunization tests (October, 1949: 739-749).

\* \* \*

*Pullorum Variants*.—Sixty strains of *Salmonella pullorum* were studied for possible presence of the XII<sub>s</sub> factor which has been a subject of much work in Canada and the United States. The variation was found to occur in Denmark but it was not easily detected (July, 1949: 541-563).

\* \* \*

*Neurolymphomatosis in a Swan*.—The axillary plexus and sciatic nerve of a 1-year-old female swan showed infiltration with lymphoid cells. There was no history of contact with chickens nor were the chickens on this estate affected with leucosis (September, 1949: 719-725).

\* \* \*

*Fox Encephalitis*.—A typical, central paralysis occurred in foxes in Denmark in 1948. Fox encephalitis antiserum obtained from America protected the animals against this infection. The symptoms, necropsy findings, and histopathologic picture are described and illustrated. There were small hemorrhages in the meninges, brain, liver, and sometimes in other organs. Intranuclear in-

clusions were found in about half the cases (December, 1949: 931-957).

• • •

*Actinomycosis in Silver Fox.*—Bacteriologic studies of a Silver Fox that died after a nine-day illness yielded an actinomycete with gram-positive branching filaments from the purulent pleural exudate. The organism was similar to an actinomycete previously isolated from a dog (May, 1949: 395-402).

• • •

*Fox Rickets and Tetany.*—Rickets was experimentally produced in fox pups by feeding a diet poor in phosphorus but high in calcium, as well as by diets poor in calcium but high in phosphorus. Tetany occurred in the animals on the low calcium diet and was sometimes seen in animals that had no clinical evidence of rickets (November, 1949: 827-894).

• • •

*Color Inheritance in Polar Foxes.*—The mating of heterozygous blue and white Polar Foxes resulted in a ratio of 23 blue to 10 white. The progeny of white parents were all white, and it was concluded that white is inherited as a single recessive character (June, 1949: 429-441).

• • •

*Wild Animals and Public Health.*—None of the diseases of wild game in Denmark present any danger either to man or domestic animals, but it is recommended that wild game sold for human food should be subject to inspection (December, 1949: 985-1,000).

• • •

*Puritus.*—A pruritus and dermatitis in rabbits and cats was shown to be due to the ectoparasite *Cheyletiella parasitivorax*. The item is interesting because the pathogenicity of this organism has been doubted by some workers (June, 1949: 449-454).

• • •

*Intravital Staining.*—A method for staining living bacteria, sperm, and other organisms, and which is especially suited for the preparation of antigen for the Brucella ring test, is described. Essentially, it consists of growing the material in a Roux flask, suspending this in 500 cc. of physiologic saline solution containing 1 per cent glycerin, and adding 1 Gm. of 2, 3, 5 triphenyl-tetrazolium chloride. This mixture becomes cherry red in color and is incubated at 37 C. for twenty hours, then diluted with an equal volume of glycerinized saline containing 1 per cent phenol. When one drop of this antigen is added to 1 cc. of milk, the results are comparable to those obtained with hematoxylin-stained antigen (November, 1949: 915-919).

• • •

*Biological Agents and Bacteriological Cultures.*—Negative results upon culture of material from animals which have been treated with penicillin or other antibiotic agents may be explained by destruction of the bacteria by the antibiotic agent

immediately prior to death or postmortem (June, 1949: 442-448).

• • •

*Foot-and-Mouth Disease Hemagglutination Test.*—Hemagglutination properties of foot-and-mouth disease virus were not shown by the blood cells from cattle, sheep, goats, guinea pigs, rabbits, chickens, and pigeons, but positive results were obtained with rat blood. This preliminary report indicates that perfection of the test is justified (November, 1949: 905-914).

• • •

*Dorsine Test.*—A complement-fixation test using antigen prepared from blood of rats infected with *Trypanosoma equiperdum* was used on 4,602 horses. Of these, 4 gave a positive reaction but showed no symptoms nor could the parasite be demonstrated in them (November, 1949: 895-904).

• • •

*Tumors of the Pancreas.*—Tumors of the pancreas are described for 2 cases. In each, the tumor resembled the *beta* cells of the islands when stained by Gomori's method. In 1, there were metastatic nodules in the liver. The literature on this subject is reviewed and 2 cases are described in detail (May, 1949: 363-376).

## BOOKS AND REPORTS

### Evaluation of Bull Semen

As a result of improved semen-collecting technique with the artificial vagina, the role of the bull in infertility has been brought into the foreground. The author considers the difference between the direct determination of results of insemination and the indirect method of evaluating the quality of the semen.

The study involved 100 normal, fertile bulls, having an average pregnancy per bull of 678, on an average of 1.62 inseminations per pregnancy; 20 problem bulls with 2.0 inseminations per pregnancy or more; 9 wholly or practically sterile bulls; 2 bulls in which experimental testis degeneration had been induced by applying a heat-insulating bag about the scrotum; 15 cases in which inflammatory conditions of the testis or the epididymis were present; and 29 bulls in which the inflammatory condition affected only the glandula vesicularis and/or the ampulla ductus deferens.

Upon the basis of all the information available, the author concludes that, "To be regarded as suitable for dilution and insemination, bull ejaculates must satisfy each of the following requirements: They must have a volume of at least 2 cc. and be of normal consistency and color and without extraneous admixture. Sperm concentration: over 0.5 million/cmm. Initial motility: at least 30 to 40 per cent of the sperm with distinct progressive movement, distinct wave movement in the comparing chamber ++. Dehydrogenization

time: under twenty-five minutes. Content of primary sperm abnormalities: under 15 per cent. As to hygiene, pH 7.0 and a catalase value of 300 should indicate the upper border values, and the semen must have a low bacteria count and be free of pathogenic microorganisms and pus cells. Sperm plasma must not contain specific antibodies against brucellosis".—[*On the Evaluation of Bull Semen with Special Reference to its Employment for Artificial Insemination*. By Erik Blom. Paper bound, 199 pages, in Danish with a 15 page English summary. Illustrated. Carl F. Mortensen, Copenhagen, Denmark, 1950.]

### Diseases of Swine

This is the fifth edition of a standard German work on diseases of swine and contains many innovations and a great deal of newly organized material. Among the new chapters are the following: breeds of swine, spirochetes, brucellosis, and causes of death in young swine.

Entirely new sections are: "Animal Parasites and Parasitic Diseases" by Dr. Wetzel; and "Operations, Obstetrics, and Reproductive Disorders" by Dr. Hupka.

After discussing the breeds of swine and their management and care, the book is divided into sections on infectious diseases, parasitic conditions, poisons, tumors, hereditary diseases, systemic pathology, and surgical and obstetrical procedures.

The organization and treatment of each subject is excellent and there are many vivid life-history diagrams characteristic of Dr. Wetzel's work throughout the book. Operations and procedures are outlined step by step in complete detail.

The authors and publishers are to be congratulated upon the production of this excellent book with its photographs, good paper stock, clear type, and substantial binding. An aid to easy use of the book would have been to carry the topic headings on the top of each page.—[*The Diseases of Swine (Die Krankheiten des Schweines)*. Von Oberg, und Vet. Rat. Dr. Karl Glasser, Prof. Dr. Rudolph Wetzel und Prof. Dr. Edmund Hubka. 481 pages, 199 figures, 6 colored plates, Cloth binding. M. & H. Schaper, Hannover, Germany, 1950. Price DM 27.]—O. W. OLSON.

### Parkinson's Disease

A detailed and painstaking account of the arrangements made by a victim of this disease and the adjustments necessary in order for him to maintain his usual or normal living habits. Although not a book in the field of veterinary medicine, it provides an approach to a problem which will help any person who is trying to adjust himself to conditions as they are altered by the intervention of a progressive disease of this nature.—[*Parkinson's Disease*. By Walter Buckler. Cloth, 79 pages, 5 in. by 7 in. Walter Buckler, 101, Leeside Crescent, London, N.W. 11, England. 1950. Price \$2.00.]

Leeside Crescent, London, N.W. 11, England. 1950. Price \$2.00.]

### The Ecology of Animals

Ecology represents partly the application of scientific methods in natural history, and partly something more. As a science, it depends on three methods of approach: field observations, adequate systematic technique for determining the names of the animals, and experimental work both in the field and in the laboratory. In addition, it requires the consideration of the more purely biological aspects of animal life: the inter-relations of animals, numbers, social organization, migration, food, and many others. To be comprehensive, any ecological survey must refer to maps of topography, geology, soil, climate; agricultural influences such as grazing; conservation and protection, generally; the vegetation; and the systematic background upon which such surveys depend for naming species. The net result of such a survey indicates that the simplest hypothesis to account for the widespread instability of animal population is that external disturbances in the weather, in vegetation, interference by man or by the arrival of new animals set up trains of internal disturbances which upset the equilibrium of animal communities and make the populations of many species fluctuate.

This is an interesting study of the relationship of animals to animals, animals to soil, and animals to man. Because the work of the veterinarian lies in the field of animals, this book should be interesting to all veterinarians who seek additional information regarding the basic elements upon which veterinary medicine is based and which determine changes that must be made from time to time.—[*The Ecology of Animals*. By Charles Elton. Cloth, 97 pages, 3½ in. by 6¾ in. John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1950. Price \$1.25.]

### Physician's Handbook

This is a revision of a handy pocket-reference for both student and physician. It contains a mixture of terse listing of factual data and informal discussion.

All sections have been completely revised and many have been expanded. New sections deal with electrocardiography, electroencephalography, radioisotopes, and simplified laboratory procedures.

These chapters make the book even more comprehensive than it has been in its former editions, and the last chapter contains much new information of value to veterinarians. Throughout the book, which is primarily designed for medical students and practitioners, there is information which the veterinarian can use to excellent advantage and which is readily available.—[*Physician's Handbook*. By M. J. Krupp, N. J. Sweet, E. Jawetz, and C. D. Armstrong. 6th ed. Paper bound.

*380 pages, 4 in. by 7 in. Numerous tables and illustrations. University Medical Publishers, P.O. Box 761, Palo Alto, Calif. 1950. Price \$2.50.]*

### Hard Pad Disease

Hard pad is an unfortunate term, for the hardening of the pad is of little importance in itself. Dogs which have had distemper or have been successfully immunized against it are infinitely less susceptible to hard pad disease and will develop it in a milder form, if at all.

Paradistemper is a much better term and indicates the close relationship between these clinically different entities.

A direct contact or droplet infection from the nose and mouth appears to be the most important manner of spread. The incubation period varies up to twenty-one days. The period of infection is short; probably twenty-four days would provide a safe margin if there is no discharge. This period of quarantine for contacts would seem to be ample.

There is great variability of symptoms: from fever for a few days to rapidly fatal cases with convulsions and death within a week. Usually, there is a distemper-like illness with a slight, thin discharge from the eyes and nose, and this has a tendency to crust. The animal remains alert or shows some lassitude. The appetite may be poor or voracious. After about two weeks, nervous symptoms appear.

Variations of this typical outbreak may include gastroenteritis, listlessness, prostration, vomiting, diarrhea for a week or more, and great emaciation. Some patients have a respiratory form, and this is usually associated with tonsillitis and enlarged neck glands, laryngitis, congestion of the lungs, rapid shallow breathing, a husky distressing cough, and a thick, white, frothy, and tenacious sputum. Hardening of the pads may appear after a week or two. When present, it heralds the onset of nervous symptoms of encephalitis—chorea, muscular weakness or paralysis, usually of one or both hind legs, and possibly deafness and blindness.

If the general condition of the dog remains good, recovery may take place with gradual improvement in the chorea and muscular weakness, but if the dog becomes greatly emaciated, death is almost certain to follow in about two weeks.—[Excerpts from a booklet, *Cona Lynn Cairn Kennels*, Percy Gardens, Tynemouth, England. Price 50 cents.]

### Correction

In the October JOURNAL, p. 338, the price for the book "Brucellosis" was erroneously quoted as \$2.75. This was the cash price offered to A.A.S. members prior to publication. The current price is \$4.00 (\$3.50 for cash orders of A.A.S. members).

### How To Raise a Puppy

It's easy to raise and train a puppy in your house or apartment by following the directions given by the author. Two-thirds of the book is devoted to the project of getting the new puppy adjusted to the home and the family adjusted to the puppy. It discusses feeding, rest, training, and establishment of good habits rather than letting the dog form bad habits. If every dog owner would follow the directions laid down here, there would be fewer complaints from non-dog-owning citizens.

The latter part of the book is devoted to such problems as skin trouble, parasites, inoculations against rabies and distemper, care of teeth, and other ailments of the dog. From the standpoint of the veterinarian, these problems are discussed to excellent advantage because they draw a distinct line between treatments which the owner may attempt and those which are not to be trifled with and should be presented to the veterinarian at the earliest possible moment.

An example of how this part of the book has been developed is the following paragraph under the heading "When To Worm Your Pup:"

"This is one of the easiest problems to solve by an amateur owner. If you love your new dog, want to do right by him and protect his health you worm him *after* a veterinarian has made an examination of the pup (or grown dog) and says the animal needs a vermifuge."

A book which every veterinarian who treats household pets should read and one which he can recommend to his clients. The moral to be drawn from the book is that it's easy to raise and train a puppy after the owner has been trained.—[*It's Easy to Raise and Train a Puppy in Your House or Apartment*. By Bob Becker. Garden City Publishing Co., Inc., Garden City, N. Y. 92 pages. Paper. Illustrated. 1950. Price \$1.00.]

### Terramycin

This is a summary report of the clinical indications of terramycin as presently available. It lists the various types of organisms which respond, those infections in which it is of questionable value, and those in which no value has been demonstrated.

There is a discussion of dosage, absorption and excretion, tolerance, and the contraindications.—[*Terramycin*. Paper. 19 pages. Charles Pfizer and Company, Inc., Brooklyn 6, N. Y. 1950.]

### We Pass This Way

This is a novel written by a physician who practiced among the workers in the Michigan copper country. It offers little along the line of history which pertains to veterinary medicine, and becomes more a recital of disconnected or loosely joined incidents from the lives of the clients. To this reviewer, it appears that there has been

undue emphasis on the misfortunes and tragedies, with a consequent minimizing of the pleasures and relaxations which even people in such modest circumstances usually enjoy.

A novel which offers little to the knowledge of the work or life of a veterinarian, and which can be enjoyed only from the tenet of the Pharisees, "I thank Thee that I am not as they."—[*We Pass This Way*. By C. A. Cooper, M.D. Cloth. 183 pages. Exposition Press, 251 Fourth Ave., New York 10, N. Y. 1950. Price \$3.50.]

#### *Received But Not Reviewed*

*Animal Parasites Reported From Man.* By F. R. Kouza. Reprinted from *The Speculum*, 3, (Winter, 1950) :3-34-35. The Ohio State University, College of Veterinary Medicine.

*Outline of Current Knowledge of Q Fever, 1950.* National Institutes of Health, U. S. Public Health Service, Bethesda, Md. 5 pp.

*Studies on the Control of Surra: I. An Effective and Economical Method of Curative Treatment of Equine Surra.* By Z. de Jesus, D. J. Cabrera, and F. Z. Gonzales. Reprinted from *The Natural and Applied Science Bulletin*, 9, (July-September, 1949) :pp. 253-272.

*Balancing the Books on Research.* Agricultural Research Administration, U. S. Department of Agriculture, Washington 25, D. C. 16 pp.

*Catalog and Technical.* Kirschner Manufacturing Co., Vaughn, Wash. 42 pp.

*Raising Dairy Calves.* Bulletin P106, May 1950. Agricultural Experiment Station-Agricultural Extension Service, Iowa State College, Ames. 21 pp.

*Report of National Plans Conference, June 13-16, 1950.* Animal Husbandry Division, Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D. C. 66 pp.

*Freedom of Medical Practice.* By the Honorable Thomas E. Dewey. Winthrop-Stearns, Inc., New York, N. Y. 12 pp.

*Thirty-Second Annual Report of the Division of Livestock Industry, July 1, 1948 to June 30, 1949.* Illinois State Department of Agriculture, Springfield. 26 pp.

*Department of Veterinary Services Annual Report, 1948.* Colony and Protectorate of Kenya. The Government Printer, Nairobi, Colony of Kenya. 30 pp. Price 2 shillings.

*The Role of the Air Line Hose of the Milking Machine in the Contamination of Milk.* By E. S. Churchill and W. L. Mallmann. Reprinted from *Journal of Milk and Food Technology*, 13, (May-June, 1950) :pp. 137-145.

*The Etiology of Fowl Paralysis, Leukemia and Allied Conditions in Animals. XIII. A Study of the Tumor-Producing Ability of "Transmission Agent EPL16."* By M. W. Emmel. Bulletin 470, June, 1950. Agricultural Experiment Station, Gainesville, Fla. 24 pp.

*Suggestions for the Care and Feeding of Cats.* Department of Veterinary Medicine, Upjohn Co., Kalamazoo, Mich. 3 pp.

*Register of Patents Available for Licensing or Sale.* Department of Commerce, U. S. Patent Office, Washington, D. C. Official Gazette, Sept. 19, 1950, vol. 63B, No. 3, 4 pp.

## REVIEWS OF VETERINARY MEDICAL FILMS

**Skin Antiseptics—Evaluation of Effectiveness of Some Widely Employed Antiseptics.**—Sound, 16 mm., black and white; running time about twenty-five minutes. Produced by Audio Productions Inc., New York, for, and available from, the Chilean Iodine Educational Bureau, Inc., 120 Broadway, New York 5, N. Y.

The basic requirements and qualities of a good skin antiseptic and the fundamental principles of skin antisepsis are first reviewed in this film.

A review of many of the commonly used skin antiseptics follows and the shortcomings of laboratory tests used for the evaluation of antiseptics are reviewed. Some of the tests commonly used for laboratory testing and *in vivo* testing are depicted. The relative performance of each of the antiseptics tested as revealed by the various tests is shown very graphically. Tests illustrated and used for comparison are: the FDA phenol coefficient test with the techniques used to determine if the effect is bacteriostatic or bactericidal, the effect of organic material on the efficiency; the time required for effective action is shown, as are the penetrating properties of the antiseptics and their toxicity to living tissue. The infection prevention test is also demonstrated. The efficiency of several methods of skin disinfection is tested by skin scrapings of the disinfected areas. The skin irritation resulting from the antiseptics is also tested.

As pointed out in the picture, the success of surgery may depend upon the thoroughness of the antisepsis of the operative site. The relative efficiencies of the various antiseptics will be interesting to veterinarians and students. The principles of asepsis shown in the film will, as will the tests, make this a very acceptable film for meetings of veterinarians as well as meetings of students in colleges of veterinary medicine. The film is an excellent production and presents a vast amount of information in an interesting manner and in a relatively short running time.

**Turkey Diseases—Miscellaneous Diseases and Conditions Affecting Turkeys.**—Silent, 16 mm., color; running time about twenty minutes. Produced by Dr. Earl N. Moore, Cornell University, Ithaca, N. Y. Available from the AVMA Motion Picture Library, 600 S. Michigan Ave., Chicago 5, Ill. Handling charge \$2.50.

By the use of excellent photography and concise titles this film presents in a most interesting manner much practical information about the diseases and conditions shown. Erysipelas, aspergillosis, infectious sinusitis, impaction of the crop, broken legs, creosote poisoning, and bursitis are ailments depicted. Each condition or disease is discussed as to the cause, laboratory procedures followed in diagnosis when applicable, symptoms, lesions on autopsy, treatment when known, and recommended control measures. The conclusion of the picture shows how the artificial insemination of turkeys can be accomplished.

Veterinarians wanting to know about the symptoms, lesions, treatment, control, and diagnosis of turkey disease conditions can not afford to miss seeing this film. The photography is good, the material shown is all pertinent, and the titles, although sufficient, are not too lengthy. Dr. Moore is to be congratulated for this production which is a valuable addition to veterinary medical motion pictures. The film should be of real interest to all veterinarians and to students in the last years of their professional training.

# THE NEWS

## AVMA Committee Maps Drive for Research Funds

Moves toward financing a long-range, expanded AVMA research program were made in Chicago on Oct. 14, 1950, at a special meeting of the Research Fund-Raising Committee.

Headed by Dr. C. P. Zepp, Sr., of New York City, this Committee has been assigned the responsibility of making initial contacts with potential contributors and exploring new channels for obtaining funds for fellowships and investigational projects administered by the Association's Research Council. Other members of the Committee are Drs. C. W. Bower, Topeka, Kan.; W. G. Brock, Dallas, Texas; James Farquharson, Fort Collins, Colo.; A. H. Quin, Kansas City, Mo.; and C. F. Schlotthauer, Rochester, Minn. President W. M. Coffee, President-Elect John R. Wells, and members of the central office staff sat in on the conference and took part in the discussions.

A final outline was drawn up for a brochure which will describe the research project. This brochure, copies of which will be mailed to all AVMA members, will be published early in 1951 for use by the Committee and other cooperating groups in raising funds.

Although a definite fund goal was not set, all members agreed that the fellowship aid program and plans for specific research projects must be considered on a long-range basis, and that an adequate, continuing source of income will be needed.

Executive Secretary Hardenbergh pointed out that \$106,000 has been contributed to the fund since it was established in 1945 and that \$49,000 of this amount already has been spent for fellowship stipends. The balance is carried as bonds in reserve and cash in bank. Current fellowship expenditures—of necessity limited by available funds—are approximately \$13,000 a year. At this rate, the fund will be depleted in three or four years unless new contributions are obtained.

The desirability of appointing an honorary committee of outstanding laymen to serve as consultants to the Research Fund-Raising Committee was discussed, and it was agreed that further consideration should be given this proposal when the Committee again meets in Chicago on Nov. 29, 1950.

## Hearings Requested for Advisory Committees

In operations bulletin No. 10 from National Headquarters, Selective Service System, local selective service boards are requested to re-open and consider anew the case of any special registrant at any time prior to the issuance of

an order to report for induction, if the State or Local Medical Advisory Committee submits evidence and requests a re-opening of the case in order to have such evidence considered.

State and local advisory committees, authorized under Public Law 779, are being appointed as rapidly as possible by the National Advisory Committee.

The bulletin explains that the above action is recommended to provide the advisory committees time and opportunity to make recommendations to local boards regarding the registrant's essentiality to the nation's health, welfare, and interest.

## Emergency Advisory Committee Meets

The chairman of the AVMA National Emergency Advisory Committee (*see JOURNAL Nov. 1950, p. 435*), Dr. W. R. Krill, met with his executive committee Nov. 21, 1950. The executive committee is composed of Drs. J. C. Carey (Iowa), W. H. Riser (Ill.), J. T. Schwab (Wis.), Asa Winter (D.C.), C. D. Van Houweling (AVMA staff), and the chairman. The meeting was held in the AVMA office in Chicago.

A more detailed report of the meeting will be published in the next issue of the *JOURNAL* and a report of it will be furnished to the state associations. The crowded agenda of the meeting indicated the many problems that will be referred to this committee during the year.

## National Advisory Committee to Selective Service Appointed

The National Advisory Committee to Selective Service authorized in the amendment to the Selective Service Act pertaining to the registration and induction of professional personnel (Public Law 779) has been appointed. Members are: Howard A. Rusk, M.D., New York, chairman; James C. Sargent, M.D., Wisconsin; Harold S. Diehl, M.D., Minnesota; Leo J. Schoeny, D.D.S., Louisiana; Mrs. Ruth Kuehn, R.N., Pennsylvania; Wm. P. Shephard, M.D., California; and J. B. Pastore, M.D., New York.

This national committee appointed state volunteer advisory committees in each state. In each case, a physician, a dentist, and the state director of public health were appointed. These state committees were authorized to appoint additional members of their committee who were

subject to the approval of the national committee. Several state veterinary medical associations have notified the AVMA office that they have been asked to select a veterinarian to serve on the state volunteer committees to Selective Service. These state committees can also appoint such subcommittees from the various professions, as they may desire. The state emergency advisory committees that the state veterinary medical associations were urged by the AVMA to appoint should fit into this plan and be in a position to function with the new state volunteer committees to Selective Service.

#### Annual Meeting of N.V.M.A. in Wales

Dr. A. B. Crawford of the BAI was the official representative of the AVMA at the annual meeting of the National Veterinary Medical Association of Great Britain and Ireland, Sept. 3-8, 1950, in Cardiff, Wales.

Quotations from a report submitted by Dr. Crawford will be of general interest; for example: "The manner of conducting the Congress was naturally most interesting and impressive, combining a minimum of scientific papers with daily social events. . . . The usual custom was to present one, or not more than two, papers in the morning session which were printed in full, followed by several prepared discussions after which general discussion was open. On two afternoons, clinics were held at which anaesthesia, examinations for soundness and lameness, and surgery were demonstrated."

The afternoons and evenings were devoted to athletic and social events of several types.

Among the topics discussed were herd infertility, diseases of the abdomen of cats and dogs, pig diseases, acetonemia, diseases of sheep, diseases of the stomach of the adult ruminant, and strain 19 vaccine in the control of brucellosis.

"The clearness and thoroughness with which the papers were written, discussions prepared, and the ease and precision with which the various speakers presented their thoughts were in striking contrast to conditions that sometimes obtain in our American meetings," said Dr. Crawford.

Both Dr. and Mrs. Crawford found the officials and members of the N.V.M.A. most courteous and solicitous during the entire meeting.

#### Alumni Group Meetings at Miami Beach

Of the alumni groups which met at Miami Beach in connection with the eighty-seventh annual convention of the AVMA, Aug. 21-24, 1950, the following have filed reports. The editors regret that this list can not be more complete, but these are the only reports received in response to a request before, and a reminder since, the

meeting to the secretary or active leader of the alumni associations.

**Alabama Polytechnic Institute.**—The group met in the main dining room of the Delano Hotel in accordance with arrangements made by Dr. J. L. Johns, Hialeah. Dean R. S. Sugg briefly reviewed the developments in the School of Veterinary Medicine and the progress being made under the Regional Program for veterinary medical training. Impromptu remarks were given by a number of alumni, including Drs. C. H. Poitevint, M. K. Heath, B. T. Simms, and I. S. McAdory. Visitors from the alumni group of McKillip Veterinary College, Kansas City Veterinary College, and St. Joseph Veterinary College also attended the meeting, as did Dean T. J. Jones of Athens, Ga. A special feature of the program was a series of vocal selections by Mrs. J. C. Justo, wife of Dr. Justo of Birmingham, Ala.—*s/R. S. SUGG*.

**Cornell University.**—Approximately 50 Cornellians and 25 wives and guests attended the dinner in the Shelborne Hotel. The earliest member to answer the call of Dr. C. E. DeCamp, vice-president of the Alumni Association, who acted as toastmaster, was Dr. R. S. McKellar, Sr., class of '94. The newest member to respond was Mr. John Baker, who will graduate in the class of '51. Speakers included Dean W. A. Hagan, Dr. C. P. Zepp, Sr., and Dr. S. J. Roberts, secretary. A very enjoyable meeting, which had been arranged by Dr. Ed Majilton of Fort Lauderdale, Fla., was ended by the singing of the alma mater.—*s/S. J. ROBERTS, Secretary*.

**Iowa State.**—The dinner at the Saxony Hotel was attended by 84 alumni and guests. Dean H. D. Bergman, who presided, made the necessary introductions. The oldest alumnus present was Dr. L. M. Hurt ('04). Dean Bergman briefly reviewed current events at I.S.C. as they affect the veterinary division.—*s/C. D. VAN HOUWELING*.

**Kansas State.**—Arrangements for the dinner at the Sans Souci Hotel were made by Dr. J. E. B. Mouw, Miami. Dean E. E. Leisure, acting as toastmaster, reviewed developments on the campus and changes in the faculty at K.S.C. A number of prominent alumni from all parts of the country and from Puerto Rico made impromptu reports of their activities. Dr. W. L. Good led the singing of college songs and the alma mater.—*s/E. E. LEASURE*.

**Michigan State.**—Dr. J. W. Eastman, Miami, who had made the local arrangements for the dinner in the Sovereign Hotel, introduced himself and then asked each of the 41 alumni to do the same and to introduce the 20 guests. Dr. Wm.

Mackie introduced Dean C. S. Bryan, who spoke of changes on the campus and in the faculty, notably the death of Dr. Ward Giltner and the retirement of Dr. John Hutton. Eight members from the class of '43 comprised the largest group from a single class. Officers elected for the coming year are: Dr. L. M. Newlin, Romeo, Mich., president; Dr. Wm. Mackie, Lapeer, Mich., secretary-treasurer.—S/WM. MACKIE.

• • •

**Ohio State University.**—About 150 alumni and guests attended the meeting at the Shelburne Hotel. After the banquet, President C. C. Wagner of Cleveland presided at the business meeting. He called on Dr. W. R. Krill to outline briefly the affairs of the college. Then a letter of greetings from Mr. J. B. Fullen, secretary of the Ohio State University Association, was read. The officers elected for the coming year are: Dr. J. R. Curtis, Portage, Wis., president; Dr. W. E. Welbourn, Winchester, Ind., vice-president; Dr. F. J. Kingma, Columbus, Ohio, secretary-treasurer; and Dr. S. L. Saylor, Canal Winchester, Ohio, was elected to the executive board. After the business

meeting, the group saw motion pictures of the Rose Bowl football game and the "Buckeye Ballad." It was moved to hold the next meeting at Columbus in June, 1951, and another meeting at Milwaukee in connection with the AVMA convention in August, 1951.—S/C. C. WAGNER, President.

• • •

**Ontario Veterinary College.**—The banquet and meeting at the Sagamore Hotel were attended by 27 alumni members. Dr. J. A. Campbell of Toronto acted as chairman and proposed a toast to the President of the United States and to the King. Brief remarks were made by Dr. Orlan Hall, Ottawa; Dr. A. G. Misener, Chicago; and Dr. E. Laitinen, Hartford, Conn. The group was greatly concerned about Principal A. L. MacNabb's illness which enforced his absence from the convention and the alumni dinner. All present signed a letter to Dr. MacNabb wishing him a speedy recovery.—S/L. C. SWAN.

• • •

**University of Pennsylvania.**—When the meeting was called to order by Dr. Jack O. Knowles

### Student Enrollment for the Academic Year 1950-1951

Approved Schools	Fresh.	Soph.	Jun.	Sen.	Spec.	Grad.*	Total	1949	Change
Alabama Polytechnic Institute	76	62	59	61	0	4	262	264	— 2
Colorado A. & M. College	62	60	56	60	0	1	239	247	— 8
Georgia, University of	56	50	47	49	5	0	205	200	+ 5
Iowa State College	62	61	64	67	0	9	263	278	— 15
Kansas State College	60	67	70	71	0	7	275	278	— 3
Michigan State College	64	53	67	85	0	23	292	318	— 26
Missouri, University of	31	30	28	30	0	4	123	118	+ 5
New York State Veterinary College	50	47	48	47	0	14	206	217	— 11
Ohio State University	71	65	70	72	0	7	285	303	— 18
Ontario Veterinary College	91	87	87	114	1	0	380	433	— 53
Pennsylvania, University of	52	45	39	42	1	9	188	186	+ 2
Quebec Veterinary School	19	28	27	12	0	0	86	85	+ 1
Texas A. & M. College	44	51	61	66	0	1	223	244	— 21
Tuskegee Institute	14	4	5	12	0	0	35	39	— 4
Washington, State College of	48	41	48	44	0	5	186	182	+ 4
<b>Totals</b>	<b>800</b>	<b>751</b>	<b>776</b>	<b>832</b>	<b>5</b>	<b>84</b>	<b>3,248</b>	<b>3,392</b>	<b>—144</b>
<hr/>									
<b>New Schools</b>									
California, University of	52	52	42	0	0	7	153	96	+ 57
Illinois, University of	34	23	24	0	0	11	92	65	+ 27
Minnesota, University of	52	50	47	23	2	14	188	143	+ 45
Oklahoma A. & M. College	41	30	36	26	0	0	133	94	+ 39
<b>Totals</b>	<b>179</b>	<b>155</b>	<b>149</b>	<b>49</b>	<b>2</b>	<b>32</b>	<b>566</b>	<b>398</b>	<b>+168</b>
<b>Totals (approved and new schools)</b>	<b>979</b>	<b>906</b>	<b>925</b>	<b>881</b>	<b>7</b>	<b>116</b>	<b>3,814</b>	<b>3,790</b>	<b>+ 24</b>

\*Hold degree in veterinary medicine, working on advanced degree.

who had made arrangements for the meeting and the dinner at the Delano Hotel, 61 alumni and guests were present. In addition to a general round table of visiting, Dean R. A. Kelser reviewed the developments and the happenings on the campus at Philadelphia for the members and guests present. The meeting ended with the singing of some of the college songs which are familiar to all and which serve as a tie to the campus. Dr. J. V. McCahon, of Downingtown, Pa., is president of this society and Dr. E. T. Booth, Philadelphia, is secretary.

—S. F. SCHEIDY.

**Other Groups.**—Although reports of the meetings have not been received, records in the AVMA office indicate that the following groups met and registered an attendance as follows: Texas, 44; Colorado, 30; Indiana, 13; Chicago, 7; Washington State, 4; Grand Rapids, 3.

## STUDENT CHAPTER ACTIVITIES

**Georgia Chapter.**—A summary of the activities of the University of Georgia Student Chapter of the AVMA for the 1949-1950 school term follows.

For the first semester, speakers included Dean Thomas J. Jones who welcomed incoming students and members of the faculty on October 9; Dr. E. F. Thomas, faculty member, gave a report on the Florida Veterinary Medical Association meeting at the November 14 meeting; Dr. J. D. Wilson, head, Department of Biological Sciences at Virginia Polytechnic Institute, Blacksburg, addressed the group at the meeting on January 9; Dr. Paul Jay Lindsey, practitioner, Madison, Ga., also spoke at the January 9 meeting, discussing "The Problems of Practice"; Dr. C. L. Campbell, Lederle Laboratories, spoke at the February 13 meeting on "Five Requirements of Livestock Raising." Social activities of the semester included a colorful square dance and a semiformal banquet at Pound Hall.

Speakers and subjects at second semester meetings were Drs. Mark L. Morris, Newark, N.J., "Nutrition of the Dog," and slides of the European tour at the time of the International Veterinary Congress in 1949; R. C. Klussendorf, assistant executive secretary of the AVMA, "The Journal of the AVMA"; Ed Chambers, practitioner, Rossville, "Practice in Northern Georgia"; L. E. Starr, public health veterinarian of Georgia, "Rabies Control in Georgia"; Charles Rife, editor of the *Georgia Veterinarian*, "Veterinary Medical Practice"; Wm. L. Sippel, pathologist at Tifton Experiment Station, Tifton, "Pathology of Swine Diseases"; Dean Thomas J. Jones, at the May 22 meeting, presented the Dean's cup to the outstanding

senior, J. T. Mercer, and a \$50 award from the Albany Serum Co., Albany, Ga., to the outstanding junior, L. L. Landon. Social activities of this semester included participation in Stunt Night at the Agricultural Campus and the annual picnic.

On May 29, 1950, the student chapter received official recognition from the AVMA. This recognition followed the accreditation of the School of Veterinary Medicine by the AVMA.

s/DAVID SPECHLER, *Publicity Chairman.*

**Kansas Chapter.**—On Oct. 5, 1950, at a meeting of the Kansas State Student Chapter of the AVMA, Robert W. McNabb was presented the \$300 Borden Scholarship Award, at Kansas State College, for maintaining the highest scholastic average in the School of Veterinary Medicine for the past three years.

s/LOWELL BRANDNER, *KSC News Bureau.*

**Michigan Chapter.**—A résumé of the highlights of activities of the Michigan State College Student Chapter of the AVMA for the spring term of 1950 is presented here.

On April 13, Mr. Max Stebbins of the Michigan State Health Laboratories delivered an illustrated lecture on rabies diagnosis in the laboratory. On April 27, the first Michigan State College Veterinary Honors Convocation was held. Following an address to students and faculty by Dr. LeDuc, M.D., Lansing, Mich., the following awards were presented to students outstanding in scholastic and leadership abilities: Willard A. Dornbos, Borden Scholarship Award of \$300; McClure Day, Michigan State Veterinary Medical Association Prize, \$25; Robert Claflin, Veterinary Faculty Prize, \$25; Gail Hawley, Moss Essay National and School Award for essay on "Veterinary Professional Ethics" and also the \$25 prize for leadership presented by the Women's Auxiliary to the AVMA.

On May 11, Dr. Darby of the Michigan State College faculty spoke on "Poultry Diseases." At the final meeting on May 25, Gail Hawley read his prize-winning essay. This was followed by an interesting lecture on "Partnerships in Veterinary Practice" by Dr. M. M. Coble, an Indiana practitioner.

s/BERNARD WASSERMAN, *Publicity Chairman.*

**Minnesota Chapter.**—On Oct. 4, 1950, a special meeting of the Veterinary Medical Club of the University of Minnesota was held to welcome the new freshmen into the School of Veterinary Medicine. Dr. W. L. Boyd, director of the School, introduced the members of the staff, and Dr. Henry J. Schmitz (Ph.D.), dean of the School of Agriculture, Forestry, Home Economics, and Veterinary Medicine, spoke to

the group. Dr. W. J. Breckenridge, curator of the Museum of Natural History, University of Minnesota, presented a motion picture and discussion on the "big bog" area of the state.

The remainder of the evening was spent in welcoming the new members and explaining the activities of the Club. Lunch was served by the program committee.

s/JOHN F. LARSON, Secretary.

## WOMEN'S AUXILIARY

**The President-Elect of the Women's Auxiliary to the AVMA.**—Mrs. C. E. Bild, president-elect of Women's Auxiliary to the AVMA, resides at 890 N. E. 98th St., Miami 38, Fla. She is well qualified to assume the responsi-



Mrs. C. E. Bild

bilities of auxiliary leadership, as she has served as recorder of the Auxiliary House of Representatives, and as third vice-president of the Auxiliary to the AVMA. All who attended the meeting at Miami Beach will remember Mrs. Bild as the charming and gracious chairman of women's activities of the local committee and the official hostess.

Mrs. Bild worked for seven years in her husband's office and through this experience learned much about the veterinary profession. She has two daughters and is active in Girl Scout work. She is also secretary of her Sunday school class and keenly interested in its work.

Her hobby is "growing things," and at the Bilds Miami home a beautiful flower garden is evidence of the success of her hobby.

**Canadian Auxiliary.**—The women attending the Canadian Veterinary Medical Association

meeting in Montreal, Sept. 7-9, 1950, held an open meeting on the evening of September 8 for the purpose of organizing an auxiliary.

Mrs. E. F. Johnston, Carp, Ont., who had been secretary of the Constitutional Committee the preceding year, and who had a great deal to do with creating general interest in the new auxiliary, presided at the meeting. Mrs. Johnston read the by-laws and constitution, and each article was discussed and voted upon.

Mrs. H. S. MacDonald, Toronto, first vice-president of the Auxiliary to the AVMA, represented Mrs. Dennis Coughlin, the president. She also brought greetings from the International Auxiliary. Mrs. MacDonald stressed the word "auxiliary" in its literal interpretation, meaning "help." The women's auxiliaries are always ready to help, not only to maintain the prestige and advancement of the veterinary profession, but to further it in every way possible. An auxiliary is an organization that can create and foster friendship among women interested in veterinary science, not only in the one just formed, but with other auxiliaries serving the same purpose.

Mrs. E. L. Brown, Moose Jaw, Sask., chairman of the nominating committee, read the slate of nominations, and each was voted upon in turn. Officers for the ensuing year are Mesdames E. F. Johnston, Carp, Ont., president; E. L. Brown, Moose Jaw, Sask., first vice-president; J. M. Veilleux, Quebec City, Que., second vice-president; Gordon Anderson, Calgary, Alta., third vice-president; H. S. MacDonald, Toronto, Ont., secretary; R. H. Lay, Winnipeg, Man., treasurer.

After the meeting adjourned, refreshments were served by the Local Committee.

s/(Mrs. H. S.) HAZEL MACDONALD, Secretary.

**Chicago Auxiliary.**—At the regular meeting of the Women's Auxiliary to the Chicago Veterinary Medical Association on October 10, Mrs. C. M. Rodgers, Blandinsville, president of the Women's Auxiliary to the Illinois V.M.A., read a book review. Members of the Chicago Auxiliary voted \$100 to the AVMA Research Fund to support research in the diseases of small animals.

**Eastern Iowa Auxiliary.**—On October 19-20, the Women's Auxiliary to the Eastern Iowa Veterinary Association met in the Hotel Montrose in Cedar Rapids. Members enjoyed a card party planned by Mrs. G. W. Satorius and Mrs. D. A. Peterson; a colored motion picture of the veterinarians' travel tour of Europe, presented by Dr. J. D. Ray, Omaha, Neb.; the annual banquet; and luncheon and style show at Killian's Tea Room.

**Southwestern Iowa Auxiliary.**—Forty-three members of the Women's Auxiliary to the South-

western Iowa Veterinary Medical Association were entertained at a luncheon at the Omaha Athletic Club, Omaha, Neb., at the fall meeting on Oct. 3, 1950.

**New England Auxiliary.**—The Women's Auxiliary to the New England Veterinary Medical Association met in the Mohican Hotel, New London, Conn., Oct. 10-11, 1950. After the business meeting, members enjoyed a luncheon, card party, cocktail party, the banquet and a bus trip to the Nathan Hale School, Hempstead House, and the Lighthouse Inn. Members of the program committee were Mesdames N. W. Pieper, chairman; E. Laitinen and G. L. Cheney, consultants; J. A. Rathbone, New London Arrangements; R. E. Larson, publicity; J. A. Edgett, hostesses; J. P. McIntosh, registration; W. P. Holcomb, decoration; and E. H. Patchen, card party.

s/(MRS. N. W.) GRACE H. PIEPER, Chairman.

**New Mexico Auxiliary.**—On October 2-3, at the Hilton Hotel in Albuquerque, members of the Women's Auxiliary to the New Mexico Veterinary Medical Association enjoyed shopping, sightseeing, a luncheon, and the informal banquet.

**Auxiliary to Southern Association.**—On November 6-8, the Women's Auxiliary to the Southern Veterinary Medical Association met at the Baker Hotel in Dallas, Texas. On the social calendar were an introductory party, chuck wagon buffet dinner and square dance, luncheon in the Century Room of the Adolphus Hotel, ice show, style show, sightseeing and shopping.

**Pennsylvania Auxiliary.**—Sixty-six of the 91 members of the Women's Auxiliary to the Pennsylvania Veterinary Medical Association attended the meeting in Galen Hall, near Reading, on October 4-6, as well as several out-of-state visitors including Mrs. Dennis Coughlin, president of the Auxiliary to the AVMA, who gave an inspiring message on the growth of the Women's Auxiliary and who installed the following newly elected officers: Mrs. D. C. Service, Elwood City, president; Mrs. Roy D. Hoffman, Bedford, vice-president; Mrs. George L. Hartenstein, York, secretary-treasurer; and Mrs. S. F. Scheidly, Drexel Hill, delegate to the Auxiliary House of Representatives for 1951. The annual honorary award of \$25 for the outstanding graduate of the University of Pennsylvania School of Veterinary Medicine was awarded to George Bragdon, Augusta, Maine. The Auxiliary voted \$5.00 to the AVMA loan fund and \$50.00 to purchase a projection screen for a classroom at the School of Veterinary Medicine. The Host-

ess committee, of which Mrs. J. G. Eagleman, Reading, was chairman, planned excellent entertainment for the group.

s/(MRS. G. L.) MARIAN HARTENSTEIN,  
Secretary.

## U. S. GOVERNMENT

**Veterinarians Needed in BAL.**—The Bureau of Animal Industry of the U.S. Department of Agriculture reports that "The number of veterinarians now employed in the Meat Inspection Service is substantially lower than that required to assure adequate inspection of the larger volume of animals which will be coming to slaughter." Some of this increased volume is from an expanding livestock agriculture, and some from the current emergency.

Between 200 and 300 additional veterinarians should be added to the BAI staff by June 30, 1952, Dr. B. T. Simms, chief, estimates. The entrance salary is \$3,825 per annum, and opportunities for advancement are more promising than they have been in many years. Bureau employees are assigned to a five-day, forty-hour week, with twenty-six days of vacation and up to fifteen days of sick leave per year.

Interested veterinarians are invited to send applications for employment directly to the Bureau of Animal Industry, U. S. Department of Agriculture, Washington 25, D.C.

**Congress Kills Plan for U.S. Foot-and-Mouth Disease Research.**—"Congress, beset by the faint-hearted, has refused money to set up a laboratory off the Rhode Island coast for the study of aftosa after previously authorizing the project," reported *Science News Letter* of Oct. 7, 1950.

This action came after the USDA had taken an option on a site at Prudence Island, in Narragansett Bay, R.I. (see July, 1950, JOURNAL, p. 40). According to *Science News Letter*, Rhode Island pressure groups representing livestock interests, businessmen, and garden clubs resorted to the well-known plea, "We highly approve of a laboratory but we don't want it here." It was a familiar chant to the congressmen, because they had heard it from California and elsewhere when sites for the proposed foot-and-mouth disease laboratory were first being considered.

Congress' failure to appropriate the funds for construction means that it will be at least another year before the laboratory can be started anywhere.

**PASB Headquarters to Remain in United States.**—The headquarters of the Pan American Sanitary Bureau, Regional Office of the World Health Organization, will remain in the United States. Since its establishment in 1902, it has maintained headquarters in Washington, D.C.

and the decision to retain the Bureau headquarters in this country was made after due consideration of the geographic, technical, economic, cultural, and practical aspects of the problem.

\* \* \*

**Veterinary Personnel Changes.**—The following changes in the force of veterinarians in the U.S. Bureau of Animal Industry are reported as of June 19, 1950, by Mr. W. A. DeVaughan, personnel officer.

#### NEW APPOINTMENTS

James G. Betts, South St. Joseph, Mo.  
Earl V. Brown, Omaha, Neb.  
Wesley W. Crenshaw, Kansas City, Mo.  
Joseph Dlugach, New York, N.Y.  
Ormond J. Hummon, St. Paul, Minn.  
John E. Johnson, Nashville, Tenn.  
Michael J. Polido, Omaha, Neb.  
Robert B. Shupbach, South St. Joseph, Mo.  
Hyman W. Steinmetz, Boston, Mass.

#### RESIGNATIONS

George D. Batchelder, Jackson, Miss.  
Jesse F. Bone, Olympia, Wash.  
Terrance A. Dorsey, Des Moines, Iowa  
Raymond E. Pinkert, Madison, Wis.  
William L. Pitt, Lincoln, Neb.

#### RETIREMENTS

Floyd E. Clark, Los Angeles, Calif.  
Harry C. Ingraham, Kansas City, Kan.  
Albro A. Lemery, Kansas City, Kan.

#### TERMINATION

William Craig, South St. Joseph, Mo.

#### TRANSFERS

William O. Caplinger, from St. Louis, Mo., to Washington, D.C.  
Francis G. Vickers, from Fort Worth, Texas, to San Antonio, Texas.

## APPLICATIONS

The listing of applicants conforms to the requirements of the administrative by-laws—Article X.

#### First Listing

ADAMS, CHARLES E. R.  
Highland, Md.  
D.V.M., Alabama Polytechnic Institute, 1943.  
Voucher: J. D. Gadd.

CASTOR, GORDON T.

R. D. I, Pt. Pleasant, W. Va.  
D.V.M., Ohio State University, 1931.  
Voucher: J. P. Bailey.

FRANCE, WALKER

1323 16th Ave., Bradenton, Fla.  
D.V.M., Terre Haute Veterinary College, 1913.  
Voucher: V. L. Bruns.

GIDDENS, JOHN A.

160 Pryor St., Rm. 510, Atlanta, Ga.  
D.V.M., University of Georgia, 1933.  
Voucher: C. C. Rife.

HAMMERBERG, CARL E.

307 St. John Pl., New London, Wis.

V.S., Ontario Veterinary College, 1910.  
Voucher: B. A. Beach.

HUGGINS, R. H.  
P.O. 1024, Statesville, N. Car.  
D.V.M., Alabama Polytechnic Institute, 1948.  
Voucher: J. H. Brown.

KERSEY, DENNIS R.

Danbury, Conn.  
D.V.M., University of Toronto, 1910.  
Voucher: E. H. Patchen.

KNAPSTEIN, THEODORE L.

Greenville, Wis.  
D.V.M., Chicago Veterinary College, 1916.  
Voucher: B. A. Beach.

LINAM, DUARD D.  
506 E. 5th St., Austin, Texas.  
D.V.M., Texas A. & M. College, 1945.  
Voucher: E. A. Grist.

MANOLSON, FRANK

134 7th Ave., E., Calgary, Alta.  
D.V.M., Ontario Veterinary College, 1948.  
Voucher: J. C. Wainwright.

MASON, JOHN

C.M.A.P.E.F.A., Morelia, Mich., Mex.  
D.V.M., National Veterinary School of Alfort, France, 1949.

Vouchers: E. C. Nieto and D. L. Williams.

MORAIS, ARMANDO A.

Castelo de Sao Joao Baptista, Angra do Heroismo, Terceira, Azores.  
D.V.M., Technical University of Lisbon, Portugal, 1947.

Vouchers: N. A. Orr and C. D. Van Houweling.

PAREDES J., TOMAS

Sociedad Ganadera de Junin, Pachacayo, Peru.  
D.V.M., University of San Marcos, Lima, Peru, 1949.

Voucher: D. F. Watson and J. Santivanez.

RAMIREZ M., ALEJANDRO

Sociedad Ganadera de Junin, Pachacayo, Peru.  
D.V.M., University of San Marcos, Lima, Peru, 1948.

Vouchers: D. F. Watson and J. Santivanez.

ROHWER, HAROLD H.

Park Rapids, Minn.  
D.V.M., Iowa State College, 1943.  
Voucher: B. S. Pomeroy.

SAITO, KOGI

69, 4-chome, Fukazawamachi, Setagayaku,  
Tokyo, Japan.  
D.V.M., Tokyo Imperial University, 1929.

Vouchers: O. H. Dixon and M. W. Scothorn.

SCHIEFELBEIN, RUDOLF E.

Box 321, Floresville, Texas.  
D.V.M., Texas A. & M. College, 1946.  
Voucher: E. A. Grist.

VELEZ L., MILAN O.

Dept. of Biology, V.P.I., Blacksburg, Va.  
D.V.M., University of San Marcos, Lima, Peru, 1948.

Vouchers: D. F. Watson and W. B. Bell.

**WILKES, PAUL H.**  
Cato, N.Y.  
D.V.M., New York State Veterinary College,  
1933.  
Voucher: J. J. Regan.

**Second Listing**

**ARIAS, C. A.** Calle A-268, Almandares, Havana  
**CHADWICK, VERNON D.**, P.O. Box 916, Jackson,  
Miss.  
**COOPER, GEORGE W.**, Box 25, Tuskegee Institute,  
Ala.  
**DAVIS, ALVA B.**, 307 S. Dowling Ave., Donalson-  
ville, Ga.  
**DEMILLY, JOHN W., JR.**, Box 994, Homestead,  
Fla.  
**GARRETT, LA RUA**, 1701 E. 5th St., P.O. Box 348,  
Panama City, Fla.  
**GINN, WILLIAM**, Box 217, Varnville, S. Car.  
**ISBELL, R. G.**, Box 323, Gadsden, Ala.  
**JAMES, EDMUND H., JR.**, 1635 Rickenbacker Rd.,  
Baltimore 21, Md.  
**JOHNSON, SAMUEL T.**, 816 Broad St., Jacksonville,  
Fla.  
**LAGARDE, RAFAEL**, Calle 23, No. 802, Vedado,  
Havana.  
**LORD, MAJOR WILLYS E.**, V. C., 1321 Lady St.,  
Columbia, S. Car.  
**LUBIAN, JOAQUIN**, Barrios 354, Vedado, Havana.  
**MOOD, BERNARD F., SR.**, 220 E. Gordon St., Savan-  
nah, Ga.  
**NELSON, CLIFFORD L.**, Jewell, Iowa.  
**NEURAUTER, CAPT. LLOYD J.**, USAF, V.C., 1701st  
Med. Group, Great Falls AFB, Great Falls,  
Mont.  
**M. PLASENCIA, VIRGILIO**, Calle H No. 561, Vedado,  
Havana.  
**ROBERTS, G. I.**, Ivor, Va.  
**ROUSSEAU, JOHN R.**, 1421 N.W. 24th Ave., Miami,  
Fla.  
**SHEPHERD, HARRY E.**, 1515 37th St., Sacramento  
16, Calif.  
**TAYLOR, JULIAN B.**, Elba, Ala.

**1950 Graduate Applicants****First Listing**

The following are graduates who have recently received their veterinary degree and who have applied for AVMA membership under the provision granted in the Administrative By-Laws to members in good standing of junior chapters. Applications from this year's senior classes not received in time for listing this month will appear in later issues. An asterisk (\*) after the name of a school indicates that all of this year's graduates have made application for membership.

**Colorado A. & M. College**

**FIELDER, FRANCIS G.**, D.V.M.  
c/o Veterinary Hosp., N. Y. State Vet. Coll.,  
Ithaca, N.Y.  
Vouchers: J. Farquharson and F. Cross.

**HAYNIE, EUGENE D.**, D.V.M.  
Manassa, Colo.  
Vouchers: L. A. Griner and F. Cross.

**Iowa State College**

**BATES, LLOYD L.**, D.V.M.  
Union, Iowa.  
Vouchers: C. H. Covault and D. A. Smith.  
**KOEPPEN, HARRY E.**, D.V.M.,  
405 J. St., LaPorte, Ind.  
Vouchers: E. A. Benbrook and F. K. Ramsey.

**Ohio State University**

**ANDERSON, GERALD A.**, D.V.M.,  
703 Elm St., Salisbury, N. Car.  
Vouchers: C. D. Diesem and H. M. Mauger, Jr.  
**TAYLOR, HAL H.**, D.V.M.,  
133 W. Lane Ave., Apt. D, Columbus 1, Ohio.  
Vouchers: C. D. Diesem and H. M. Mauger,  
Jr.

**Ontario Veterinary College**

**BAKER, JOHN M.**, D.V.M.  
3415 Shuter St., Montreal, Que.  
Voucher: P. Villeneuve.

**University of Pennsylvania**

**HERNANDEZ, RAUL D.**, V.M.D.,  
P.O. Box 127, San Lorenzo, P. R.  
Vouchers: R. A. Kelser and J. D. Beck.

**Washington State College**

**FULLER, ROBERT H.**, D.V.M.,  
1168 16th St., Arcata, Calif.  
Voucher: C. S. Travers.

**Second Listing****Iowa State College**

**BELL, LEROY H.**, D.V.M., 1316 W. Locust St.,  
Davenport, Iowa.  
**BIERSCHWAL, CLARENCE J., JR.**, D.V.M., 103 Temple,  
Excelsior Springs, Mo.  
**HALL, ROBERT E.**, D.V.M., Albany, Mo.  
**WINEGARDEN, RICHARD L.**, D.V.M., 1106 Sycamore  
St., Waterloo, Iowa.

**Ontario Veterinary College**

**MACKAY, ALVIN R.**, D.V.M., Apt. 11, 343 Prince  
St., Truro, N.S.

**University of Pennsylvania**

**BELLOFF, GEORGE B.**, V.M.D., 153 N. Munn Ave.,  
East Orange, N.J.  
**GREEN, CASPER W. J.**, V.M.D., 212 N. Eagle Rd.,  
Havertown, Pa.

**When moving, advise the AVMA office. Journals will not be forwarded by the post office.**

## AMONG THE STATES AND PROVINCES

### Arizona

**U.S.L.S.A. Meeting.**—The fifty-fourth annual meeting of the U. S. Livestock Sanitary Association was held at the Westward-Ho Hotel in Phoenix, Nov. 1-3, 1950. The following scientific program was presented.

Dr. W. H. Langham (Ph.D.), assistant health division leader and director, Biomedical Research, Los Alamos Scientific Laboratory, N. M.: "Problems of Livestock Industry Created by Atomic Explosions."

Mr. L. A. Spindler (Sc.D.), Zoological Division, U.S. BAI, Washington, D.C.: "Effects of Parasites on Swine Production."

Drs. H. E. Kemper and I. H. Roberts, Zoological Division, U.S. BAI: "Eradication of Sheep Scabies."

Dr. Irving S. Danielson (Ph.D.), Lederle Laboratories, Pearl River, N.Y.: "Laboratory Studies on the Immunizing Value of Hemorrhagic Septicemia Bacterin and Blackleg Bacterin."

Dr. Harald N. Johnson (M.D.), Laboratories of the International Health Division, Rockefeller Institute, N.Y.: "The Rabies Control Program of the World Health Organization."

Dr. L. P. Doyle, Purdue University, LaFayette, Ind.: "Rhinitis of Swine."

Dr. Earl J. Splitter, assistant professor, Department of Pathology, Kansas State College, Manhattan: "Ictero-Anemia of Swine."

Mr. W. D. Termohlen, director, Poultry Branch, Production and Marketing Administration, U.S.D.A., Washington, D.C.: "The Poultry Grading and Inspection Program of the U.S.D.A."

Dr. Oscar Sussman, State Board of Health, Trenton, N.J.: "Objections of Public Health Authorities with Respect to the Federal Grading and Inspection Regulations."

Dr. K. V. L. Kesteven, chief, Animal Industry Branch, Agriculture Division, Food and Agriculture Organization of the United Nations, Washington, D.C.: "World Reporting of Animal Diseases."

Dr. A. W. Stableforth, director, Veterinary Laboratories, New Haw, Weybridge, Surrey, England: "Morbidity and Mortality Data in Great Britain."

Mr. W. F. Verwey (D.Sc.), director, Bacteriological Research, Sharp and Dohme, Glenolden, Pa.: "Factors Influencing the Properties of Desiccated Brucella Abortus Vaccine."

Dr. T. C. Green, Charleston, W. Va.: "Report of the Six-State Experiment with Brucella M Vaccine."

Dr. Ana Winter, assistant in charge, Brucellosis and Tuberculosis Eradication Division, U.S. BAI, Washington, D.C.: "Report on Brucellosis Eradication Project."

Dr. K. F. Meyer, The George Williams Hooper Foundation, San Francisco, Calif.: "What Is Known About Immunity to Brucella Infection."

Dr. H. A. Milo (Ph.D.), chief, Tuberculosis Eradication Division, Bureau of Animal Industry, Department of Agriculture, Harrisburg, Pa.: "Experience in Pennsylvania in Tracing the Origin of Cattle Reported on Regular Kill To Be Affected with Tuberculosis."

Dr. K. F. Wells, associate chief veterinarian, Health of Animals Division, Department of Agriculture, Ottawa, Ont.: "Progress in Control of Bovine Tuberculosis in Canada."

Dr. B. C. Swindle, Pathological Division, U.S. BAI, Washington, D.C.: "Research on Tuberculosis."

Dr. A. K. Kuttler, in charge, Tuberculosis and Brucellosis Eradication Division, U.S. BAI, Washington, D.C.: "Bovine, Avian, and Swine Tuberculosis Eradication."

Dr. F. R. Beaudette, poultry pathologist, New Jersey Agricultural Experiment Station, New Brunswick: "Recent Literature on Newcastle Disease."

Drs. S. B. Hitchner, G. Reising, and H. Van Roekel, Department of Veterinary Science, University of Massachusetts, Amherst: "The Intranasal Vaccine, Its Role in a Newcastle Disease Control Program."

Dr. L. C. Grumbles, Texas A. & M. College of Texas, College Station: "Infectious Sinusitis of Turkeys."

Dr. Norman O. Olson, University of West Virginia, Morgantown: "A Virus Disease of Quail."

Dra. H. Van Roekel, K. L. Bullis, G. H. Sneoyenbos, M. K. Clarke, and O. S. Flint, Department of Veterinary Science, Massachusetts Agricultural Experiment Station, Amherst: "Significant Observations in Pullorum Disease Eradication."

Drs. C. Bottorff, L. B. Tennison, and Floyd Markham, Lederle Laboratories, Pearl River, N. Y.: "Intranasal Newcastle Vaccine and Its Use."

Reports of the various committees were also read at this meeting.

s/R. A. HENDERSHOTT, Secretary.

• • •

**Maricopa County Association.**—The September meeting of the Maricopa County Veterinary Medical Association was held at the South Mountain Retreat near Phoenix, with Dr. Robert E. McComb in charge of the program. Dr. Ward R. Lee arranged the program of the October meeting which was held at the Stockyards Inn, Tovera. At both meetings, Dr. Lee, inspector in charge of BAI field forces, F. D. McMahon, state veterinarian, and several large animal practitioners discussed problems relating to the vaccination program in the control of brucellosis in cattle. Both

meetings were well attended by veterinarians and their wives.

S/CHARLES J. PRCHAL, Secretary.

### California

**Q Fever from Sheep.**—Of 300 cases of Q fever in southern California, 2 gave histories of contacts that specifically suggested sheep as a source of infection.—*Pub. Health Rep., March 24, 1950.*

\* \* \*

**Personal.**—Dr. Robert Ormsbee, Stockton, spoke at the California Association of Dairy and Milk Sanitarians when it met in Los Angeles October 23-25. His subject was "Cattle Diseases in Relation to Breeding Efficiency."

### Colorado

**Association Officers.**—Officers of the Colorado Veterinary Medical Association, elected at the annual meeting on September 28-29, are Drs. John W. Harrison, Longmont, president; Harry Scott, Fort Collins, vice-president; and Earl Smith, Steamboat Springs, secretary-treasurer.  
S/JOHN W. HARRISON, President.

### Connecticut

**New England Association.**—On Oct. 10-11, 1950, the New England Veterinary Medical Association met in the Mohican Hotel in New London. The technical program follows.

Dr. Walter J. Gibbons, Alabama Polytechnic Institute, Auburn: "Practical Cattle Surgery."

Brig. Gen. J. A. McCallam, V.C., chief, Veterinary Division, U. S. Army: "The Army Veterinary Service in the Current Emergency."

Dr. Harry J. Fisher, Connecticut Agricultural Experiment Station, New Haven: "Common Toxicological Findings in Connecticut."

Dr. Richard T. Gilyard, Waterbury, was moderator of a panel on "Mastitis." Other panel members were Drs. Walter J. Gibbons; Wayne N. Plastridge, Storrs; and David Walker, Morrisville, Vt.

Dr. Wayne N. Plastridge (Ph.D.), University of Connecticut, Storrs: "Vibriosis."

Dr. William G. Magrane, Mishawaka, Ind.: "Canine Ophthalmology" (with illustrations).

Dr. D. Lawrence Wilson (M.D.), Peter Brent Brigham Hospital, Boston, Mass.: "The Present Status of ACTH and Cortisone."

Dr. Ellis P. Leonard, New York State Veterinary College, Ithaca: "Surgical Shorts."

Dr. Gerry B. Schnelle, Boston, Mass., was moderator of a panel discussion on "Small Animal Practice." Other panel members were Drs. Ellis P. Leonard; W. G. Magrane; John R. Wells, Palm Beach, Fla.; David L. Coffin, Boston, Mass.; and Joseph DeVita, New Haven.  
S/C. L. BLAKELY, Secretary.

**Personal.**—Dr. Richard Gilyard, Waterbury, is master of the hounds of the Middlebury Hunt. Recently, a field of over 40 horsemen and numerous guests participated in the organization's opening formal hunt of the season.

### District of Columbia

**District Association.**—The District of Columbia Veterinary Medical Association held its fourth quarterly meeting in the Mayflower Hotel, October 11.

Dr. J. Raymond Currey, president, American Animal Hospital Association, spoke on "The A.A.H.A. and Its Activities" and showed a colored motion picture on "Ear Cropping." Col. Ralph W. Mohr, Second Army veterinarian, Fort George G. Meade, Md., discussed "Problems Connected with the Procurement of Veterinary Reserve Officers."

S/CLARENCE H. THOMPSON, Jr., Secretary.

\* \* \*

**Impression Corrected.**—Dr. C. P. Marcus has resigned from the Bureau of Animal Industry to accept a position as dairy inspector with the District of Columbia Health Department. Our earlier reference to his separation from the Bureau was not clear on this point.

### Georgia

**Short Course.**—Sixty-three veterinarians registered for the sixth annual short course for veterinarians at the Abraham Baldwin Agricultural College and Georgia Coastal Plain Experiment Station, Tifton, Oct. 16-17, 1950. The program follows.

Dr. T. J. Cunha (Ph.D.), University of Florida, Gainesville: "The Animal Protein Factor."

Dr. Jack Ray, Corn States Serum Co., Omaha, Neb.: "Pneumonias of Swine" and "Differential Diagnosis of Swine Diseases."

Dr. H. C. H. Kermkamp, University of Minnesota, St. Paul: "Chronic Hog Cholera" and "Baby Pig Disease."

Dr. W. A. McKenzie, University of Georgia: "Practical Sterilization in Veterinary Practice."

Drs. A. L. Blalock, Sylvania; R. A. Houston, Blakely; Guy Moorman, Douglas; T. C. Ross, McRae; and E. F. Thomas, University of Georgia, were members of a panel which discussed "Short Cuts in Swine Practice."

Drs. Clyde I. Boyer, and Meredith R. Gardiner, both of the Georgia Coastal Plain Experiment Station: "Don't Overlook Poultry Practice."

Dr. E. F. Thomas: "Poisonings in Livestock."

Drs. W. A. MacKenzie; E. W. Rackley, Macon; C. C. Rife, Atlanta; L. C. Rosman, Albany; J. E. Severin, Atlanta; and H. G. Young, Thomasville, were members of a panel

which discussed "Short Cuts in Small Animal Practice."

Those in attendance made a tour of the Station and saw the steer feeding trials, the swine breeding setup, and the nearly completed new animal disease laboratory.

s/WM. L. SIPPEN.

### Idaho

**Regional Brucellosis Conference.**—At the Northwestern States Brucellosis Conference held at Boise, Sept. 7 and 8, 1950, many branches of the veterinary medical profession were represented, including three practitioners (Drs. H. E. Kingman, J. F. Rankin, and P. G. MacKintosh).

The position of the practicing veterinarian was presented at the meeting by Dr. Kingman. He emphasized that the practitioner is the only person familiar with his local conditions, and that he is the logical man to eradicate brucellosis in the herds of his clients.

Mr. Herman Oliver suggested that more attention be given to sanitation, rotation of feedlots, and nutrition in relation to the disease.

Mr. Herman C. Aaberg presented the recommendations of the American Farm Bureau Federation for a national brucellosis eradication program.

The Subcommittee on Further Development of Brucellosis Eradication recommended to the meeting that a uniform plan to promote brucellosis eradication be formulated, that the BAI withdraw licenses for manufacture of liquid vaccine, and (despite my protest) that bulk sale of Brucella vaccine be permitted in the range states.

s/PETER G. MACINTOSH.

### Illinois

**Short Course.**—The thirty-first annual Illinois Veterinary Conference and Extension Short Course was held at the College of Veterinary Medicine, University of Illinois, Urbana, on Oct. 25-26, 1950. Guest speakers and their subjects were:

Drs. N. H. Howlett, inspector in charge, U. S. BAI, Springfield; R. A. Thompson, Division of Livestock Industry, Springfield; and L. R. Davenport, Department of Public Health, Springfield: "Animal Disease Control Problems in Illinois."

Drs. C. A. Lemen, Warrensburg; L. J. Miller, Lincoln; and J. E. Erickson, Cerro Gordo: "Cyanide Poisoning—Case Reports."

Dr. E. R. Frank, Kansas State College, Manhattan: "Surgery in Cattle," and "Enucleation of the Eye of the Cow."

Dr. W. M. Coffee, LaCenter, Ky., president of the AVMA: "Problems in General Practice."

Dr. P. J. Meginnis, Cicero: "Light Horse Practice."

Dr. W. A. Beard, Greenview: "Diagnosis and Treatment of Poultry Diseases."

Dr. R. K. Shideler, Danville: "Cesarean Section in the Sow."

Dr. E. J. Albers, Murphysboro: "Medication of Pigs."

Dr. C. M. Rodgers, Blandinsville: "Technique for Bleeding Swine."

Discussions by members of the faculty of the College of Veterinary Medicine included diagnosis of Newcastle disease, Newcastle disease immunization, turkey diseases, prevention of acetonemia, milk test for diagnosis of ketosis, hyperkeratosis, sterility in cows, toxicity of new insecticides, swine dysentery, swine brucellosis, Brucella ring test, cervicitis and endometritis, intramedullary pinning of fractures, and vaccination and bleeding birds.

Dr. Coffee was guest speaker at the banquet.  
s/L. E. BOLEY, Chairman.

\* \* \*

**Mississippi Valley Association.**—The forty-fifth annual convention of the Mississippi Valley Veterinary Medical Association was held Nov. 1-2, 1950, in the Hotel Pere Marquette, Peoria. The scientific program follows.

Dr. G. R. Moore, Michigan State College, East Lansing: "Sterility Problems and Pregnancy Diagnosis" and "Teat Surgery."

Dr. E. S. McClelland, Aledo: "Diseases of the Pregnant Sow."

Mr. Fred H. Schultz, Jr., Terre Haute, Ind.: "Use of Bacitracin in Veterinary Medicine."

Mr. Lewis E. Harris, Lincoln, Neb.: "Practical Diagnostic Tests for Veterinarians."

Dr. William Munson, Wyoming: "Light Horse Practice."

Dr. H. E. Jensen, Cleveland, Ohio: "Small Animal Practice" (with illustrations).

Dr. R. L. Williamson, Fort Dodge, Iowa: "Blood Parasites in Swine."

Dr. R. G. Benedict, Northern Regional Research Laboratory, Peoria: "Antibiotics."

Dr. C. C. Morrill, University of Illinois, Urbana: "Comments on Current Hog Losses."

s/R. J. KIRKPATRICK, Secretary.

\* \* \*

**Chicago Association.**—At the October 10 meeting of the Chicago Veterinary Medical Association at the Palmer House, Mr. Ralph Yohe, of W.L.S. radio station, showed slides taken in Europe of various phases of agriculture and some of the European veterinary colleges.  
s/ROBERT C. GLOVER, Secretary.

\* \* \*

**Eastern Association.**—The fall meeting of the Eastern Illinois Veterinary Medical Association was held at the Hotel Tilden Hall, Champaign, on September 27, with 54 members and guests in attendance. Dr. A. L. Newman, De-

partment of Animal Science, University of Illinois, discussed "Recent Developments in the Field of Animal Nutrition," and Dr. J. O. Alberts, Champaign, presented a paper on "Poultry Practice."

s/H. S. BRYAN, Secretary.

\* \* \*

**College of Veterinary Medicine.**—A progress report of the College of Veterinary Medicine, University of Illinois, reveals that the 25 students who matriculated in 1948 were granted the degree of bachelor of veterinary science June 18, preparatory to obtaining their doctorate in 1952. All of them are residents of the state. The third class was admitted at the opening of the current college year.

#### Indiana

**Michiana Association.**—The members of the Michiana Veterinary Medical Association met in a joint meeting with their auxiliary at the Hotel Elkhart, Elkhart, Ind., Oct. 12, 1950, for their regular monthly meeting.

Highlight of the evening was a talk by Mr. Ross Martin, industrialist of Elkhart. Mr. Martin spoke about his recent trip to Japan and showed colored slides he had taken. He gave an interesting discussion of the historical background, as well as a perceptive account of the economic, political, and religious phases of life in the Orient.

s/R. W. WORLEY, Secretary.

\* \* \*

**Northwestern Association.**—The Northwestern Indiana Veterinary Medical Association met September 28 at the Sportsman Hotel, Monticello. Drs. J. W. Green, BAI, Purdue University, West LaFayette, and L. M. Hutchings, chief, Veterinary Department, Purdue University, discussed swine diseases.

Dr. and Mrs. Chas. Lindborg, Monticello, were hosts at the meeting.

s/J. L. KIXMILLER, Resident Secretary.

\* \* \*

**Northeastern Association.**—At the September 20 meeting of the Northeastern Indiana Veterinary Medical Association at the LaFontaine Hotel in Huntington, members discussed diseases of large animals. Dr. and Mrs. H. W. Demsey were hosts to the group, and the women were entertained at the Demsey residence.

s/J. L. KIXMILLER, Resident Secretary.

\* \* \*

**Tenth District.**—Dr. H. E. Pinkerton, Fort Dodge, Iowa, spoke on swine diseases at the September 21 meeting of the Tenth District (Indiana) Veterinary Medical Association. A lively discussion followed his presentation.

s/J. L. KIXMILLER, Resident Secretary.

\* \* \*

**Personal.**—Dr. R. C. Brager (ISC '43), Hammond, has recently opened the Brager Dog and Cat Hospital.

#### Iowa

**Southwestern Association.**—The fall meeting of the Southwestern Iowa Veterinary Medical Association was held at the Hotel Chieftain, Council Bluffs, Oct. 3, 1950, with 80 veterinarians in attendance. The scientific program follows.

Dr. E. B. Ingmand, poultry nutritionist, Red Oak; "Poultry Practice."

Dr. A. H. Quin, Jensen-Salsbury Laboratories, Kansas City, Mo.: "Recent Developments in Veterinary Medicine."

Drs. H. U. Garrett, state veterinarian, Des Moines; C. W. Brown, U.S. BAI, Des Moines; E. P. Anderson, Nebraska state veterinarian, Lincoln; and J. E. Peterman, U.S. BAI, Lincoln, Neb.: "Remarks."

Dr. H. C. Schaefer, assistant director of research, Ralston Purina Co., St. Louis, Mo.; "Animal Nutrition."

Dr. Robert Haxby, practitioner, Clarinda: "Veterinary Administration and Dispensing Practices."

Dr. E. H. Nordstrom, U.S. BAI, Des Moines, showed the motion picture on foot-and-mouth disease, "Outbreak."

Speakers and the audience participated in a discussion of "Baby Pig Disease."

Officers for the coming year are Drs. Frank Wilson, Guthrie Center, president; John W. Sutcliffe, Audubon, vice-president; D. L. Spaulding, Coin, secretary-treasurer; E. B. Ingmand, Red Oak, executive board member.

s/F. B. YOUNG, Resident Secretary.

\* \* \*

**Dairy Shrine Club Honors H. W. Jeffers.**—On Oct. 4, 1950, Henry William Jeffers, Plains-



Henry William Jeffers

boro, N.J., was honored by the Dairy Shrine Club in Waterloo for his outstanding contribution to the dairy industry, and his portrait was hung in the Shrine clubrooms which adjoin the grounds of the National Dairy Cattle Congress. The Club has as its objective the establishment of a shrine to stimulate, inspire, and educate, and it honors outstanding pioneers in this field as an inspiration to coming leaders.

Mr. Jeffers developed the world famous rotolactor, a revolving platform where 50 cows at a time are washed and milked, the milk flowing directly into glass-lined tanks.

Mr. Jeffers was made an honorary member of the AVMA in 1935 because of his great interest in veterinary science matters and his active promotion of livestock disease control under veterinary supervision.

\* \* \*

**Eastern Association.**—The thirty-seventh annual meeting of the Eastern Iowa Veterinary Association was held at the Hotel Montrose, Cedar Rapids, on Oct. 19-20, 1950. The following program was presented.

Dr. L. M. Hutchings, head, Department of Veterinary Science, Purdue University, LaFayette, Ind.: "Swine Brucellosis."

Dr. W. M. Coffee, LaCenter, Ky., president of the AVMA: "Greetings from the American Veterinary Medical Association" and "General Practice."

Dr. Wayne D. Yoder, in charge of the Bang's Disease Laboratory, Agricultural Research Administration, U.S. BAI, Ames, Iowa: "The Research Angle of the Brucella Ring Test."

Dr. R. M. Johnson, assistant veterinarian in charge, U.S. BAI, Des Moines: "Experience with the Brucella Ring Test in the State and Federal Project in the Burlington Milkshed."

Dr. Samuel Elmer, practitioner, Richland Center, Wis.: "Practical Surgery in Dairy Cattle Practice."

Dr. Frank Thorp, Jr., research professor, School of Veterinary Medicine, Department of Animal Pathology, Michigan State College, East Lansing, Mich.: "Sheep Diseases of the Breeding Flock and Feedlot."

Dr. B. S. Pomeroy, School of Veterinary Medicine, University of Minnesota, St. Paul: "What Can Be Done About Respiratory Diseases of Poultry."

Colonel O. H. Dixon, V.C., Fifth Army Veterinarian, Chicago, Ill.: "The Veterinary Corps in the Present Emergency."

Mr. S. R. Guarl, editor and publisher, the *Breeder's Gazette*, Louisville, Ky.: "The Relationship Between the Veterinarian and the Livestock Producer."

Dr. W. A. Aitken, practitioner, Merrill: "Swine Erysipelas in Northwest Iowa." Dr. Joe W. Giffey, Cedar Rapids, led the discussion of this paper.

Mr. R. H. Grummer, Department of Animal Husbandry, University of Wisconsin, Madison: "Low Fertility in the Sow."

Dr. A. H. Quin, head, Professional Service Division, Jensen-Salsbury Laboratories, Kansas City, Mo., conducted a question box session.

S/N. R. WAGGONER, *Secretary*.

#### Kansas

**Change of Personnel at Kansas State.**—Dr. Francis A. Murry (KSC '50) will fill the vacancy in the Department of Surgery and Medicine, School of Veterinary Medicine, Kansas State College, created by the resignation of Dr. Robert F. Shigley (COR '45).

s/E. E. LEASURE, *Dean*.

#### Louisiana

**Twin Calves.**—Dr. H. H. Baur, of Monroe, reports that a city cow is doing her part to increase the dairy population. Monroe is a city



Dr. Baur and the twin calves.

of 50,000 population and Tiny, owned by Mr. and Mrs. Owen Cobb of Monroe, has led an urban life with all its hazards and inconveniences (cowishly speaking). Nevertheless, on October 3, at 6:30 p.m. Tiny and Dr. Baur delivered to the Cobb's a pair of calves, Mollie and Lollie. In the picture, Dr. Baur is shown holding Tiny, Gene Cobb holding Mollie, and Mrs. Cobb holding Lollie.

**Michigan**

**Dr. Appelhof Accepts Full-Time Duties at Zoological Park.**—Dr. William K. Appelhof (MSC '43) assumed his duties as full-time veterinarian at the Detroit Zoological Park on October 2. Dr. Appelhof has been on the staff for the past four years on a part-time basis. A building constructed some time ago for an animal hospital is now being completed to provide an office, operating room, and an autopsy room.

s/F. G. McINNIS, Director

**Cortisone Experiments at M. S. C.**—Cortisone will be used in animal experiments at the School of Veterinary Medicine, Michigan State College, under the direction of Dr. Joseph Meites, associate professor of physiology. The limited amount of this drug which has been made available is believed to be the first used at a veterinary college or on domestic animals.

In man, this extract from the adrenal glands has produced remarkable results in the treatment of asthma, arthritis, and other diseases. Its uses in the animal field are still unknown, but will be explored.

**Minnesota**

**Central Association.**—The Central Minnesota Veterinary Association met in Benson, Oct. 1, 1950, to hear Dr. J. C. Flint, University of Minnesota, St. Paul, discuss "Foot Rot." Officers elected at this meeting were Drs. G. A. Pollman, Appleton, president; M. S. Thorpe, Canby, vice-president; A. L. Antroinen, Ortonville, secretary; and C. O. Eliason, Benson, treasurer. Dr. Pollman succeeds Dr. R. S. Kufrin, Benson, as president; all other officers were reelected.

**Southern Society.**—The Southern Minnesota Veterinary Medical Society held its fall dinner meeting at the Austin Country Club on Oct. 18, 1950. After the dinner, Dr. A. H. Quin, Jensen-Salsbury Laboratories, Kansas City, Mo., discussed "Recent Developments in the Field of Veterinary Practice."

New officers of the Association are Drs. James Flanary, St. Charles, president; W. H. Calhoun, Riceville, Iowa, vice-president; G. A. Young, Jr., Austin, secretary-treasurer. Drs. A. B. Magnusson, Blooming Prairie, and C. E. Schrafel, Austin, were elected to the Board of Trustees.

s/G. A. YOUNG, JR., Secretary

**New Members Join Teaching Staff.**—During the past few months, five appointments have been made to the staff of the School of Veterinary Medicine of the University of Minnesota. Drs. Jean C. Flint (COL '32) and John F. Henry, Jr. (UP '50), have joined the Section of Pathology and Parasitology. Additions to clinical pharmacology are Drs. C. M. Stowe, Jr. (UP '50), and P. B. Hammond (COL '49).

Dr. D. G. Low (KSC '47) has been appointed to the clinic staff in large animal medicine.

**Auxiliary Donates Funds to Veterinary Library.**—During 1949, the Women's Auxiliary to the Minnesota State Veterinary Medical Association donated \$100 to the library of the School of Veterinary Medicine, University of Minnesota, for the purchase of books. This gift has been utilized for items that could not have been readily obtained through the use of regular library funds. Gifts of this nature are invaluable to a small library, especially when such a unit is being expanded to meet the requirements of a new school. It is with much appreciation and thanks that this generous donation is acknowledged.

s/H. J. GRIFFITHS, Resident Secretary

**Missouri**

**Conference of Public Health Veterinarians.**—The fourth annual conference of public health veterinarians was held during the seventy-eighth U. S. Public Health Association convention in the Hotel Jefferson, St. Louis, Mo., Oct. 30, 1950.

The program included the following sections and speakers:

**Poultry Diseases, Inspection, and Sanitation**—Drs. H. J. Stafseth, Carl Brandy, Paul J. Brandy, Russell Hart, (S.E.), Oscar Felsenfeld (M.D.), C. D. Carpenter, Oscar Sussman, Martin D. Baum, E. R. Price, Kenneth Young, LeRoy Davenport, James Lieberman, Miss Sarah Vance Dugan, and Mr. A. P. Fletcher.

**Control of Animal Diseases that Are Transmitted in Milk Products**—Drs. C. S. Bryan, Carroll Mingle, Guy M. Crews, Karl Reinhard, John Enright (Ph.D.), Philip Edwards (Ph.D.), T. W. Workman.

**The Role of Veterinary Medicine in Public Health**—Drs. C. W. Pals, Frank A. Todd, and James H. Steele.

**Short Course.**—The twenty-sixth annual short course for graduate veterinarians under the direction of the School of Veterinary Medicine, Division of Agriculture Sciences, University of Missouri, in cooperation with the Missouri Veterinary Medical Association, was held in Columbia, Oct. 16-17, 1950. The scientific program follows.

Dr. Richard S. Guthrie, veterinarian and milk sanitarian, DeLaval Separator Co., Chicago, Ill.: "The Role of the Practitioner in Controlling Mastitis."

Dr. J. G. Hardenbergh, executive secretary, AVMA, Chicago: "The Current Military Situation—Its Meaning to Veterinarians."

Dr. R. D. Turk, head, Department of Veterinary Parasitology, Texas A. & M. College, College Station: "Internal Parasites of Domestic Animals" and "External Parasites of Domestic Animals."

Dr. I. E. Newsom, dean emeritus, Colorado

A. & M. College, Fort Collins: "Diseases of Sheep" and "Diseases of Feeder Lambs."

Dr. H. E. Curry, state veterinarian, Jefferson City: "Duties of the Practitioner in Official Disease Control Work."

Dr. E. R. Price, Missouri Department of Public Health, Jefferson City: "The Veterinarian and Our Public Health Problems."

Dr. H. W. Howell, School of Veterinary Medicine, University of Missouri: "Distemper and Hepatitis Complex in Dogs."

Mr. H. C. Schaefer, manager, Nutrition Research Laboratories, Ralston Purina Company, St. Louis: "Animal Nutrition."

Dr. A. G. Hogan, University of Missouri: "Antibiotics in Livestock Rations."

Dr. J. L. Jones, Blackburn, was moderator of a question and answer panel which included all program speakers.

\* \* \*

**Greater St. Louis Association.**—The November 10 meeting of the Greater St. Louis Veterinary Medical Association was held in the Ralston Purina Research Building. Dr. George E. Thoma, director of clinical radioisotopes, St. Louis University, spoke on "Medical Aspects of Atomic Warfare." He illustrated his talk with slides and motion pictures depicting the destructive activities of the atomic bomb and the effects of atomic weapons.

s/A. R. BOTT, *Secretary*.

#### New Jersey

**International Association of Milk and Food Sanitarians.**—The thirty-seventh annual convention of the International Association of Milk and Food Sanitarians was held at the Hotel Dennis in Atlantic City, Oct. 13-16, 1950. Among the speakers who addressed the group were Drs. Milton R. Fisher, St. Louis, Mo.; I. A. Merchant, Ames, Iowa; J. L. McAuliff, Cortland, N.Y.; W. H. Haskell, Chicago, Ill.; Fred C. Driver, St. Paul, Minn.; S. F. Scheidy, Glenolden, Pa.; R. G. Ross, Tulsa, Okla.; and W. L. Mallman, East Lansing, Mich.

#### New Mexico

**State Association.**—The annual meeting of the New Mexico Veterinary Medical Association was held Oct. 2-3, 1950, at the Hilton Hotel in Albuquerque. The scientific program follows.

Dr. Lee Phillips, Lakewood, Colo.: "Small Animal Oxygen Therapy Techniques" and "Clinical Aids in Small Animal Practice."

Dr. Joe F. Knappenberger, Ashe Lockhart Laboratories, Kansas City, Mo.: "Digestive Disorders of the Cow" and "Problems in Large Animal Practice."

Dr. John C. Murphy, M.D.: "Correlation of Human and Animal Skin Disorders."

Dr. F. H. Sharp, Albuquerque: "Vesicular

Stomatitis and Foot-and-Mouth Disease."

Dr. Knappenberger was moderator of a panel on large animal problems and Dr. Phillips was moderator of a small animal panel.

New officers of the association are Drs. Ulysses McElvea, Las Cruces, president; S. J. Dowd, Tucumcari, vice-president; O. J. Rollag, Albuquerque, secretary-treasurer; and Tom Evans, resident secretary for the AVMA.

s/J. Downs, *Secretary*.

#### New York

**New York City Association.**—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held at Skyspot of the Hotel Statler on October 4. Col. Louis L. Shook, First Army Veterinarian, Governor's Island, spoke on "The Military Situation and How It Affects the Veterinarian."

Dr. Marcus Kogel (M.D.), commissioner of hospitals, New York City, spoke on "The Role of the Veterinarian in the Event of Atomic Warfare in New York City." He pointed out that Dr. R. S. MacKellar, Sr., had been selected as the representative of the veterinary profession of greater New York, to participate in the activities of the Medical Coordinating Committee of the City.

Dr. Joseph B. Engle, Summit, N.J., spoke on "Receiving and Dismissing Patients in the Small Animal Hospital," and Dr. Arthur R. Trayford, Huntington, spoke on "Handling the Patients in the Wards."

Drs. Harold Kopp, Greenwich, Conn., and Sidney L. King, Suffern, were introduced as new members.

s/C. R. SCHROEDER, *Secretary*

\* \* \*

**Personal.**—Mrs. C. Guy Stephenson, wife of Mr. C. Guy Stephenson, president of Goshen Laboratories, Goshen, N.Y., was seriously injured in an automobile accident, September 15.

Mrs. Stephenson was brought home from the hospital in October. Although still partially paralyzed, there is hope that she will eventually recover.

\* \* \*

**Dedication of Research Laboratory Delayed.**—Due to construction delays, dedication ceremonies for the Cornell Research Laboratory for Diseases of Dogs have been rescheduled for Jan. 5, 1951. At that time, the building will be completed and in operation, permitting a thorough inspection of all facilities.

#### North Carolina

**Roanoke-Tar Association.**—The Roanoke-Tar Veterinary Medical Association held a dinner meeting October 6 at Rocky Mount. After the dinner, members participated in a round-table discussion of general practice problems. This is a local association for northeastern

North Carolina and meets monthly at various places in its territory. Officers are Drs. T. A. Monk, Jr., Ahoskie, president; and G. L. Gilchrist, Edenton, secretary.

s/J. H. BROWN, Resident Secretary.

### Ohio

**First Veterinary Consultant to the Surgeon General.**—Dr. Walter R. Krill, dean of the College of Veterinary Medicine of The Ohio State University, Columbus, was appointed as civilian veterinary consultant to the Air Force recently, and he attended the joint conference of civilian consultants and command surgeons at the Pentagon, Oct. 6-8, 1950. Dean Krill is the first veterinary consultant to be selected for such a military assignment, Major General Harry T. Armstrong, Surgeon General U.S.A.F., announced. He is also chairman of the Emergency Advisory Committee of the AVMA and is a member of the Healing Arts Educational Advisory Committee to the director of Selective Service, as well as president of the National Board of Veterinary Medical Examiners.

### Ontario

**Dr. Perry Joins Veterinary Faculty.**—Dr. Florence A. Perry (Ph.D.) is the first full-time woman faculty member in the history of the Ontario Veterinary College. Although not a veterinary graduate, her previous academic experience as a demonstrator in biochemistry and lecturer in pharmacology at the medical school of Ottawa University makes her a valuable addition to the faculty of the college. Her new duties will include assisting in histology and lecturing in embryology, in which subject she has published several scientific papers.

s/T. LLOYD JONES, Resident Secretary.

• • •  
**Activities of Faculty Members.**—Dr. J. A. Henderson (ONT '36), head, Department of



Back row (left to right)—Drs. E. F. Pallister, George Cairns, and J. A. Henderson, all of the Department of Clinical Medicine, of which Dr. Henderson is head. Front row—Drs. H. G. Downie, Florence A. Perry (Ph.D.), J. D. Schroeder, Department of Pathology.

Clinical Medicine at the Ontario Veterinary College, recently spent six weeks in South America, where he did sterility work in beef and dairy cattle herds. His visit was sponsored by several private owners in Brazil, Uruguay, and Argentina. While in the Argentine, Dr. Henderson attended the Palermo Livestock Show (the national stock show of that country) and was impressed by the quality of cattle shown.

Three members of the faculty recently returned from various parts of the United States where they have been engaged in postgraduate and research work. During the two years in which he was at Colorado A. & M. College, Fort Collins, Dr. E. F. Pallister, Department of Surgery, completed his studies toward an M.S. degree in veterinary surgery. Dr. J. D. Schroeder is resuming his duties in the Department of Pathology after a year at the Mayo Clinic, Rochester, Minn., where he was engaged in cancer research and graduate work in pathology. Dr. H. G. Downie, Department of Physiology and Clinical Chemistry, completed a year's study toward an M.S. degree at the New York State Veterinary College, Cornell University, Ithaca, N.Y.

s/T. LLOYD JONES, Resident Secretary.

### Pennsylvania

**State Association Officers.**—The following officers were elected at the sixty-eighth annual convention of the Pennsylvania State Veterinary Medical Association, Oct. 4-6, 1950, in Wernersville: Drs. R. D. Hoffman, Bedford, president; J. Robert Brown, New Castle, president-elect; James Eagelman, Womelsdorf, vice-president; Theodore DeVries, Altoona, second vice-president; Warren B. Rawlings, Limerick, third vice-president; Raymond C. Snyder, Upper Darby, secretary; E. T. Booth, Philadelphia, treasurer; Raymond C. Snyder, delegate to the AVMA; and E. L. Stubbs, Philadelphia, alternate.

Approximately 306 veterinarians attended this meeting of the Association.

s/DONALD G. LEE, Resident Secretary.

• • •  
**Bucks-Montgomery Association.**—Dr. D. W. Crisman, track veterinarian for the Delaware Steeple Chase and Racing Association, was guest speaker at the October 25 meeting of the Bucks-Montgomery Veterinary Association in the Moose Hall at Doylestown.

s/V. W. RUTH, Secretary.

### Tennessee

**Rabies Campaign.**—Despite the thorough dog control activities, it was not possible to eliminate rabies from the Memphis area until intensified mass immunization tactics were added to the emergency program of 1948. The re-

sults of this program stand as dramatic testimony to the importance of a well-organized vaccination campaign, says Dr. E. S. Tierkel in the *American Journal of Public Health* (Sept. 1950).

### Texas

**South Central Association.**—The following program was presented at the September 23 meeting of the South Central Texas Veterinary Association in Landa Park, New Braunfels, which 75 veterinarians and their wives attended.

Col. J. G. Horning, Houston: "Veterinary Military Status."

Dr. Kenneth Young, Austin: "Rabies in Wildlife."

Dr. C. R. Tubbs, Cuero: "Dispensing in Practice."

Lt. T. G. Murnane, Fort Sam Houston: "Laboratory Diagnosis of Rabies."

Dr. R. D. Radeleff, Kerrville: "Insecticide Toxicology" (film).

Officers elected at this meeting were Drs. U. E. Marney, San Antonio, president; Chas. R. Tubbs, Cuero, vice-president; N. Annelda Baetz, San Antonio, secretary-treasurer.

On the social agenda were a barbecue and dinner at the Oasis Night Club.

s/LEON G. CLOUD, Resident Secretary

**Southern Association.**—The thirty-third annual convention of the Southern Veterinary Medical Association was held in Dallas at the Baker Hotel on Nov. 6-8, 1950. The scientific program follows.

Dr. W. W. Armistead, Texas A. & M. College, College Station: "Small Animal Practice."

Dr. E. E. Sweebe, manager, Veterinary Division, Abbott Laboratories, North Chicago, Ill.: "Indications for and Use of Fluid Therapy in Small Animals."

Dr. Ernest S. Tierkel, assistant chief, Veterinary Public Health Service, Atlanta, Ga.: "Veterinary Public Health Problems."

Dr. L. C. Grumbles, poultry pathologist, Texas Agricultural Experiment Station, College Station: "Poultry Practice."

Dr. R. L. Burkhard, Lederle Laboratories, Pearl River, N.Y.: "The Use of Aureomycin in Large and Small Animals" (with illustrations).

Dr. Homer Greenlee, Fort Worth: "Chinchilla Practice."

Dr. I. B. Boughton, dean, School of Veterinary Medicine, Texas A. & M. College: "Some Sheep Diseases."

Dr. W. M. Coffee, LaCenter, Ky., president of the AVMA: "General Practice."

Dr. Hubert Shull, Texarkana: "Milk Inspection and the Veterinarian."

Dr. James K. Northway, chief veterinarian at

the King Ranch, Kingsville: "Some Practical Experience of Horse Breeding."

Dr. W. S. Gochenour, Pitman Moore Co., Indianapolis, Ind.: "Virus Diseases of Dogs."

Dr. S. F. Scheidy, veterinary medical director, Sharp and Dohme, Philadelphia, Pa.: "Some Sulfonamides and Antibiotics in Veterinary Practice" (with illustrations).

Dr. R. D. Turk, A. & M. College of Texas: "Parasites of Farm Animals."

Dr. A. H. Quin, Jensen-Salsbury Laboratories, Kansas City, Mo.: "Swine Diseases."

Col. Maurice W. Hale, station veterinarian, Fort Sill, Okla.: "The Army Veterinary Service."

Mr. R. H. Leonard (M.S.), Department of Bacteriology, Oklahoma A. & M. College, Stillwater: "Impaired Fertility in the Cow."

Dr. G. T. Easley, Sulphur, Okla.: "Clinical Aspects of Impaired Fertility in the Cow."

Dr. R. D. Radeleff, Kerrville: "Toxicity of Chlorinated Hydrocarbon Insecticides" (with illustrations).

Dr. Newton B. Tenille, Oklahoma A. & M. College, Stillwater: "Emergency Treatment in Accident Cases of Small Animals."

\* \* \*

**Dr. Dunn Retires from Faculty.**—Dr. R. C. Dunn (OSU '11), who joined the faculty of Texas A. & M. College immediately after receiving his D.V.M. degree, retired Sept. 1, 1950, having had hand in the instruction of every graduate of the School of Veterinary Medicine at Texas A. & M. College. He first taught in the Veterinary Science Department, a unit of the School of Agriculture which was the forerunner of the School of Veterinary Medicine established in 1916. Dr. Dunn served as dean of the School from 1946 to 1948 and was head of the Veterinary Bacteriology and Hygiene Department when he retired.

### Washington

**New Faculty Members.**—Dr. J. E. McCoy, chairman, Administrative Committee, College of Veterinary Medicine, Washington State College, Pullman, announces the following additions to the teaching staff: Drs. Gabel H. Conner (WSC '41), associate professor in surgery; Jack S. Dunlap (MSC '50), assistant professor in parasitology and assistant veterinarian in the agricultural experiment station; Clyde M. Bemis (WSC '47), instructor; G. R. Spencer (KSC '40), professor and acting chairman, Department of Veterinary Hygiene and Pathology; and L. W. Groves (ONT '38), associate professor.

### West Virginia

**State Association.**—The annual meeting of the West Virginia Veterinary Medical Association was held at the Stonewall Jackson Hotel,

Clarksburg, on Oct. 8-9, 1950. The following scientific program was presented.

Dr. S. E. Hershey, consulting veterinarian, Charleston: "Report of State Delegate to the National Meeting of the AVMA."

Dr. Gordon C. Phillips, Charleston: "Method of Control of Rabies Outbreak in Charleston."

Dr. C. D. Van Houweling, assistant executive secretary of the AVMA, Chicago: "AVMA Participation in National Planning."

Dr. Harry J. Fallon, Huntington: "Intramedullary Pinning in Fractures."

Dr. E. R. Coon, U.S. B.A.I., inspector in charge: "Program for Control of Brucellosis in West Virginia."

Dr. H. P. Buckley, Lewisburg: "Design of and Place for Large Animal Hospital."

The films "The Horse and Its Heritage in Tennessee," courtesy Mr. and Mrs. J. Truman Ward, Maryland Farms, Brentwood, Tenn., and "Some Uses of Gelfoam in Veterinary Surgery," courtesy Upjohn Company, Kalamazoo, Mich., were shown.

New officers of the association are Drs. Leo Kotchek, Institute, president; Harry J. Fallon, Huntington, vice-president; J. P. Bluefield, re-elected secretary-treasurer.

s/JAMES P. BAILEY, Secretary.

#### Wisconsin

**Milwaukee Association.**—At the October 17 meeting of the Milwaukee Veterinary Medical Association, Dr. R. C. Klussendorf, editor-in-chief of the AVMA publications, discussed some of the problems connected with the forthcoming 1951 AVMA convention to be held in Milwaukee. Following this, there was a discussion regarding the problems arising in the Division of Livestock Sanitation.

s/K. G. NICHOLSON, Secretary.

\* \* \*

**Southeastern Association.**—The Southeastern Wisconsin Veterinary Association met at the Bel-Air, west of Green Lake, the evening of September 28, to hear Mr. Donald McDowell, director of the State Department of Agriculture, discuss "What the Department Expects of the Practicing Veterinarian."

s/H. W. BLAKEFIELD, Secretary.

\* \* \*

**Staff Additions to Department of Veterinary Science.**—Dr. R. E. Nichols (B.V.Sc., ONT '33; M.S., OSU '34; Ph.D., OSU '41; D.V.Sc., ONT '43) resigned the deanship of the School of Veterinary Medicine, Washington State College, to accept the headship of the Department of Physiology. Dr. Nichols will do research work on pathologic physiology and direct the work of a number of graduate students. He will continue the research on acetonemia and initiate certain study phases on rumen digestion.

Dr. W. E. Lyle (OSU '44) accepted a position as assistant professor and extension veteri-

narian in the Department of Veterinary Science. Dr. Lyle practiced at Edgerton, Wis., for the past six years.

Dr. H. E. Dale (D.V.M., ISC '44; M.S., ISC '49) was appointed instructor in the physiology section and will assist in teaching while pursuing graduate work toward the Ph.D. degree in physiology with a joint major in veterinary science and physiological chemistry.

Dr. George Lambert (ONT '47), formerly assistant professor at the University of West Virginia, has been appointed instructor in veterinary science. Dr. Lambert will pursue graduate work in pathology with a joint major in veterinary and medical pathology.

Dr. T. S. Chow (B.V.S., National Central University, China, '40; Ph.D., MSC '50) was appointed project associate on studies dealing with vesicular diseases.

Dr. Joan Belcher (ONT '50) has accepted appointment as research assistant in diseases of fur animals while taking part-time graduate work.

Dr. M. S. Redfern (LON '48) has been tendered an appointment as research assistant in the project on brucellosis and will undertake part-time graduate work with a major in bacteriology.

s/C. A. BRANDLY, Chairman.

## FOREIGN NEWS

#### Australia

**Veterinary Association.**—The twenty-seventh annual general meeting of the Australian Veterinary Association was held at the University of Adelaide in South Australia, May 22-26, 1950. Because of the great distances, the attendance at annual meetings is not large. Adelaide is 1,100 mi. from Sydney and the trip requires six hours by air or three days by ship.

Among the subjects discussed were diseases of calves and calf rearing by Drs. A. K. Sutherland, H. J. Geddes, and D. Murnane.

Other subjects and speakers were: canine distemper by Drs. J. H. Whittem, J. D. Steel, Ann Flashman, and T. J. Hogarth; copper and cobalt deficiencies by Drs. H. J. Lee and W. S. Smith; avian tuberculosis by Drs. A. H. Robin, H. E. Albliston, and G. Edgar; spirochetosis in poultry by Drs. C. J. Gorrie and J. N. Henry; contagious pleuropneumonia in cattle by Drs. W. Webster and A. Grayson; Johne's disease by Drs. R. H. Macindoe and L. P. Prewett.

Officers elected for the year 1950-1951 are: Drs. D. Murnane, president; T. S. Gregory, vice-president; H. McL. Gordon, president-elect; R. M. Webb, honorary treasurer; D. Murnane, honorary assistant business manager; H. E. Albliston, honorary editor of the *Australia Veterinary Journal*; H. McL. Gordon, honorary librarian; M. Henry, secretary and business

manager; G. C. McLennan, honorary assistant secretary.

*s/J. D. STEEL, University of Sydney.*

[Dr. J. D. Steel acted as AVMA representative at this meeting and extended the greetings from the officers and members to the members of his own association.—Ed.]

### Japan

**Status of Veterinary Medicine.**—Dr. Kogi Saito, president of the Japan Veterinary Medical Association, recently visited the AVMA office while surveying the field of veterinary medicine in the United States. Among other items which he discussed, the numbers of veter-



Dr. Kogi Saito

inarians in Japan and the work in which they are engaged should prove interesting. He reports a total of 16,287 veterinarians, of whom 14,391 are actively engaged in some phase of veterinary medicine. Of these, 830 are national officials, 4,146 are prefectural officials, 103 are employed by cities or villages, 4,145 are employed by associations or groups of animal owners, and 4,281 are engaged in private practice.

To understand the work of these veterinarians, figures on livestock population are interesting also. For example, the beef cattle numbers are 2,091,986; dairy cattle, 201,787; horses, 1,072,344; sheep, 327,490; goats, 457,972; hogs, 488,290; rabbits, 2,695,252; chickens, 16,356,093; ducks, 245,327; and honey bees, 82,733 hives. Activities in the prevention and the control of diseases of all of these animals are centered under the Veterinary Department of the Government of Japan (comparable to the U.S. B.A.I.), which is headed by Dr. Saito.

An interesting comparison in connection with numbers of animals and numbers of veterinarians shows that in the United States we have one veterinarian to approximately 12,000 animals, whereas Japan has one veterinarian to approximately 4,000 animals.

Tuberculosis and brucellosis tests provide a goodly portion of the work of the government veterinarians and the private practitioners engage in the eradication programs on a *per diem* basis.

Japan has 13 recognized veterinary colleges which are accredited by a committee organized by the colleges themselves. The schools of veterinary medicine graduate about 800 students per year and these are examined for practice by 25 members of the examining board, who are nominated by the Japan Veterinary Medical Association for service on this board. Of the veterinary colleges, four are directly under the Ministry of Education of Japan, six are operated at a prefectural level, and three are private schools.

### Italy

**Distinguished Veterinarian Dies.**—Prof. Plinio Carlo Bardelli, 63, director of Institut Zooprofilattico Sperimentale of Venice, died June 12, 1950. His death (*Zootech. e Vet.* July, 1950) removed one of the world's outstanding veterinary scientists from Italian and international veterinary science. Professor Bardelli was admired as a scholar, scientist, citizen, and soldier. His full professional life was punctuated with achievements in the high positions he held in military and civilian pursuits. He was born at Chiavari, May 18, 1887, and was graduated at the University of Pisa in 1908.

• • •

**Brucellosis of the Spine.**—The Italian correspondent of the American Medical Association writes at some length on the diagnosis and therapy of human melitococcic spondylitis, an osteoarticular complication of brucellosis to be reckoned with. The report recalls researches of the late L. Enos Day, who was able to attribute some cases of posterior paralysis in hogs to spondylitis due to *Brucella abortus* var. *suis*.

### Switzerland

**New Swiss Tuberculosis Control Law.**—A new law promoting a campaign against bovine tuberculosis provides for examination of herds, elimination or isolation of tuberculous animals, and protection and maintenance of herds free from tuberculosis, including vaccination.

The federal government reimburses the canton governments up to 40 to 50 per cent of the expenditures incurred by applying control measures; and it pays subsidies or indemnities on a basis of a maximum of 80 per cent of the estimated official value after deduction of the proceeds of the sale of the reacting animals.—

*P. G. Minneman, counselor of legation for economic affairs, Bern, Switzerland.*

### Venezuela

**Foot-and-Mouth Disease Outbreak**—Several outbreaks of foot-and-mouth disease, at first diagnosed as vesicular stomatitis, have occurred recently in the Caracas Valley around Lake Valencia, one of the important dairy centers of the country. While mortality has been relatively low, milk production is said to have been reduced 50 per cent in some herds.

## VETERINARY MILITARY SERVICE

**Military Surgeons' Association**.—On Nov. 9-11, 1950, the Association of Military Surgeons held its annual meeting in New York City. The veterinary medical panel arranged by Col. Louis Shook, V.C., Hqs. First Army, and presented on Friday afternoon included the following speakers and their topics.

Dr. James H. Steele, chief, Veterinary Public Health Service, Communicable Disease Center, Atlanta, Ga.: "Veterinary Public Health Program in the United States."

Dr. Jordi Casals: "Laboratory Diagnosis of Virus Diseases."

Dr. Fred R. Beaudette, Agricultural Experiment Station, New Brunswick, N.J.: "Newcastle Disease."

Lt. Col. John H. Rust, III, V.C.: "Veterinary Aspects of Atomic Energy."

s/J. A. McCallam, Brigadier General, V.C.

## MARRIAGES

John W. Finlay (MSC '47), Long Island City, N.Y., to Miss Nancy D. Kadlec (MSC '47), Springfield, Ill., in Chicago, Aug. 16, 1950.

Miss Joan Youngs (MSC '47), Toledo, Ohio, to Mr. Clayton Ziegler, Toledo, on Sept. 25, 1950.

Dr. Robert L. Berger (UP '46), Shartlesville, Pa., to Miss Evelyn Leiby, Hamburg, Pa., on Oct. 7, 1950.

Dr. Milton Philip Sause (API '41), Baltimore, Md., to Miss Marian Parslow, Baltimore, Md., on Oct. 14, 1950.

## BIRTHS

Dr. (KSC '37) and Mrs. Ben N. Winchester, Hannibal, Mo., announce the birth of Susan Louise on July 8, 1950.

Dr. (API '45) and Mrs. Al Sutton, Augusta, Ga., announce the birth of their second child, Al, Jr., on July 19, 1950.

Dr. (KSC '41) and Mrs. Gilbert W. Carl, Abilene, Kan., announce the birth of a daughter, Nancy Rae, on Aug. 22, 1950.

Dr. (KSC '43) and Mrs. Fayne H. Oberst announce the birth of their second child, a son, on Aug. 26, 1950.

Dr. (KSC '41) and Mrs. E. J. Keller, St. Francis, Kan., announce the birth of a son, William Morris, Sept. 14, 1950.

Dr. (TEX '46) and Mrs. Robert H. Kokernot, San Antonio, Texas, announce the birth of a daughter, Jan, on Oct. 2, 1950. Dr. Kokernot is serving his internship at Brooke Army Hospital in San Antonio after receiving his M.D. degree from Baylor University College of Medicine in June, 1950.

Dr. (KSC '40) and Mrs. Glenn I. Case, Kewanee, Ill., announce the birth of a daughter, Glenna Lea, on Oct. 19, 1950.

## DEATHS

★Alfred J. Allott (NYS '17), 54, Newburgh, N.Y., died July 2, 1950. Dr. Allott had practiced in Newburgh since his return from service in World War I, and had been active in civic affairs. He was admitted to the AVMA in 1918.

★Edgar J. Balliet (UP '14), 69, Northampton, Pa., died Sept. 7, 1950. Dr. Balliet was district veterinarian for the state Bureau of Animal Industry and was a member of the state House of Representatives in 1939 and 1940. He was also a member of the Pennsylvania Veterinary Society and the Del-High Veterinary Club. He was admitted to the AVMA in 1919.

★Leonard R. Biswanger (UP '43), 30, Gardenville, Pa., died Sept. 7, 1950. Dr. Biswanger was admitted to the AVMA in 1944.

★George M. Carson (MC K '12), 66, Albert Lea, Minn., died on Sept. 20, 1950, following surgery. Dr. Carson was a member of the National Association of Federal Veterinarians and was admitted to the AVMA in 1916. He is survived by his widow, Ethel, and one son.

Clyde Dohner (ONT '28), Reedsburg, Wis., died June 9, 1950, following a heart attack. Dr. Dohner had been engaged in general practice.

★Michael Donahoe (CVC '17), 57, Milford, Iowa, died June 14, 1950. A former mayor of Milford, Dr. Donahoe was a member of the AVMA for more than thirty years.

Lloyd C. Drum (CVC '10), Saybrook, Ill., died July 3, 1950, after a long illness. Dr. Drum had practiced in central Illinois for forty years.

★Arthur T. Fletcher (CVC '08), 70, Virden, Ill., died Aug. 28, 1950. Dr. Fletcher spent his entire life in the Virden community except for twelve years he served as federal tuberculosis inspector in Texas and California. He served two terms as mayor of Virden and was active in other civic affairs. He is survived by

★Indicates members of the AVMA.

his widow, Mabel, their only son having died from leucemia at 17 years of age. Dr. Fletcher was a member of the AVMA.

**L. G. Fredette** (MON '04), 73, Grande Prairie, Calgary, Alta., died of a heart attack. Dr. Fredette is survived by his widow and one daughter.

**J. J. Glover** (KCVC '17), Zionsville, Ind., died June 14, 1950. Dr. Glover had served as city bacteriologist at Kansas City, Mo., and had been employed by Haver-Glover Laboratories and Pitman-Moore. He had retired some time ago because of poor health.

\***Charles H. Haasjes** (GR '18), 62, Shelby, Mich., died Oct. 13, 1950. Dr. Haasjes was born at Staphorst, Netherlands, and came to this country as a young man. He was engaged in private practice, but his influence was widely felt, because he was active in the Michigan State Veterinary Medical Association and vitally interested in all meetings of veterinarians. He served the AVMA for many years as a translator and abstractor of the Dutch literature. Through this work, he not only brought his colleagues in this country the results of laboratory and clinical research in the land of his birth, but he carried on a correspondence with veterinarians in the Netherlands and actively supported an exchange between that country and ours. He was particularly interested in fostering a closer relationship with Dutch students, and he supplied them with American books and magazines.

Dr. Haasjes was admitted to the AVMA in 1926.

**Perry W. Horner** (MCK '17), Houston, Miss., died in 1949 after a lengthy illness.

\***I. W. Horton** (CVC '95), 76, West Union, W. Va., died Aug. 23, 1950, of a heart attack. Dr. Horton was admitted to the AVMA in 1917.

\***Harvey Hostetter** (GR '06), 70, Albion, Ind., died Aug. 24, 1950. Dr. Hostetter was a member of the Indiana Veterinary Medical Association and of the AVMA.

\***James M. Hunter** (UP '21), 54, New Milford, Conn., died July 17, 1950. Dr. Hunter was a member of the Connecticut Veterinary Medical Association and of the AVMA.

\***Col. Sherman R. Ingram** (KCVC '06), San Antonio, Texas, died in May, 1950. Col. Ingram was admitted to the AVMA in 1926.

\***George W. James** (CVC '20), 56, Houston, Texas, died July 17, 1950, of cancer of the lung. Dr. James practiced in Monroe, La., for several years before moving to Houston where he opened the James Cat and Dog Hospital. Dr. James was a member of the AVMA.

**Frank Jones** (CVC '10), Leigh, Neb., died Sept. 3, 1950. Dr. Jones had been engaged in general practice.

\***Benjamin J. Killham** (MC K '12), 65, East

Lansing, Mich., died Oct. 12, 1950. An obituary appears on page 478 of this JOURNAL.

\***John Stratton Koen** (KCVC '07), 71, colorful worker of the U.S. Bureau of Animal Industry, commercial circle, and the profession in general, died at the Masonic Hospital, Sullivan, Ill., Oct. 4, 1950. He was born at Walshville, Ill., in 1881, the son of a family physician.

Dr. Koen, entering the government service after graduating, was assigned to the congested swine-breeding centers of Iowa where, by 1912, he had become known as one of the Bureau's hog cholera experts. He coined the term "swine flu" to confirm the logic of his historic observations.

In 1918, he resigned from the Bureau to enter the commercial field. In 1931, Dr. Koen was drafted by the health department of St. Louis to inaugurate a municipal meat inspection service. Late in 1934, he reentered the Bureau's meat inspection service and in 1936 was reassigned to hog cholera control work at Storm Lake, Iowa, where his health failed.

Dr. Koen upheld the scientific standing of the veterinarian throughout his work. He is survived by his widow, Christyne; a son, John, Jr., of Elizabeth, N.J.; and a sister, Mrs. George Guthrie, Fort Meyers, Fla. He was a member of the AVMA for thirty-six years.

**Paul W. Miller** (OSU '10), Cortland, Ohio, died Aug. 4, 1950. Dr. Miller had been engaged in general practice.

\***Guy M. Parrish** (API '25), 62, Louisville, Ky., died of a heart ailment, Oct. 8, 1950. Dr. Parrish was a member of the National Association of Federal Veterinarians, the Kentucky and Jefferson County veterinary medical associations and of the AVMA. He is survived by his widow, Lorene.

**Bert E. Paul** (ONT '89), Dowagiac, Mich., died Dec. 24, 1949.

\***Henry D. Porter** (KSC '43), 29, Winfield, Kan., died July 21, 1950. Dr. Porter was admitted to the AVMA in 1943.

**John L. Rich** (ONT '13), 64, Elnora, Alta., died July 10, 1950. A veteran of World War I, Dr. Rich is survived by his widow, Angie, a daughter and a son.

**Frederick S. Streng** (IND '08), Fountaintown, Ind., died recently.

**George A. Taylor** (MC K '12), 66, Plainfield, Ill., died May 11, 1950. Dr. Taylor had practiced in Plainfield for more than twenty-five years.

**O. G. Vollmar** (MC K '12), Montgomery, Minn., died July 19, 1950. Dr. Vollmar had retired from active practice.

\***Leo Weiss** (VI '13), 68, Natick, Mass., died June 3, 1950. Dr. Weiss was a member of the Massachusetts Veterinary Association and of the AVMA.

JOURNAL  
of the  
**American Veterinary  
Medical Association**

**VOLUME CXVII**

NOS. 880-885

JULY-DECEMBER, 1950

Published by

**AMERICAN VETERINARY MEDICAL  
ASSOCIATION**

600 S. MICHIGAN AVE., CHICAGO, ILL.

Contents Copyright 1950 by American Veterinary Medical Association

## Index of Names

### Authors

Akus, Beat S., 43.  
Allen, F. E., 392.  
Anderson, Wayne A., 490.  
Arunas, J. B., 360.  
Armstrong, H. L., 212.

Bailey, J. W., 123.  
Baker, D. W., 126.  
Blair, Ida C., 144.  
Brown, Jo, 471.  
Bryan, C. S., 303.

Crookshank, Georg, 41.  
Cupp, P. T., 496.

Damon, S. R., 39.  
Danks, A. G., 52.  
Davis, C. L., 460.  
De Ley, P. D., 142.  
Drury, A. E., 303.

Easterbrook, H. L., 388.  
Edmonds, E. V., 467.  
Ehrlich, Michael, 41.  
Embry, L. B., 136.

Fincher, M. G., 130, 193, 311.  
Fischbacher, B. D., 447.

Gochenour, W. S., Jr., 207.

Harms, George R., 462.  
Harms, Herbert F., 462.  
Harms, Herbert F., Jr., 462.  
Honess, Ralph F., 471.  
Hopper, Howard H., 127.  
Hutton, J. P., 303.  
Hynes, T. A., 485.

Jasper, D. E., 458.  
Jellison, William L., 405.  
Jenny, Jacques, 381.  
Jourdan, R. H., 419.  
Jungherr, Erwin, 324.

Kafke, Hellmut, 454.  
Kingma, Fred J., 403.  
Koch, Bernard, 142.  
Kohls, Glen M., 405.  
Kraft, Mary E., 400, 414.

Leighton, R. L., 202.  
Levine, Norman D., 52.  
Link, R. P., 52.

MacNabb, A. L., 91.  
MacNamee, J. K., 212.  
McGee, H. L., 227.  
McGrath, C. B., 144.  
McManus, E. C., 54.  
Mason, Marcus M., 217.  
Matteson, Rose W., 452.  
Meredith, G. G., 47.  
Miller, Barbara Rhodes, 229.  
Miller, Robert E., 229.  
Mires, M. H., 49.  
Muhrer, M. E., 293.

Olsen, Carl, Jr., 144.

Parker, E. B., 39.  
Payne, Loyd C., 90.  
Peterson, E. H., 485.  
Plebridge, W. N., 385.  
Pleuger, Carl A., 237.  
Pever, M. L., 223.  
Pever, Ralph, 223.  
Prior, J. E., 139.

Rivis, S. W. H., 408.  
Rogoff, George, 220.  
Rose, Harold T., 306.  
Rudy, Richard L., 199.  
Syll, J. F., 671.

Schulme, O. W., 396.  
Scheidt, S. F., 54.  
Schenk, Mary, 409, 414.  
Schlotthauer, Carl F., 143.  
Scruggs, J. H., 39.  
Seghetti, Leo, 447.  
Shephard, Harry E., 30.  
Simon, Joseph, 400, 414.  
Slonetz, L. W., 392.  
Solis, J. A., 300.  
Spencer, G. R., 430, 414.  
Splitter, Earl J., 134, 371.  
Stern, Aaron L., 44.  
Stoddard, H. L., 471.  
Swanson, Leonard E., 137.

Tharp, Vernon L., 199.  
Tharp, W. T. S., 374.  
Tilson, E. K., 54.  
Turk, R. D., 215.

Walker, R. H., 487.  
Walmore, Psycho W., 207.  
White, Edward A., 390.  
Willman, J. P., 136.  
Wooster, E. A., 52.  
Woodring, F. R., 144.  
Woolsey, John H., Jr., 46.

Yoger, R. H., 207.

### Personals

Appelholz, William K., 497.  
Ascoli, Alberto, 191.

Barron, C. N., 444.  
Barza, James C., 259.  
Barlo, L. R., 94.  
Barto, Paul B., 440.  
Bild, Mrs. C. E., 488.  
Bott, Mrs. Anthony E., 166.  
Brager, R. C., 495.  
Bremner, T. H., 261.

Cairns, George, 499.  
Chaddock, T. T., 84.  
Coughlin, Mrs. Dennis, 345, 438.  
Crawford, A. B., 249.

Deming, Andrew S., 80.  
Downie, H. G., 499.

Ebert, E. F., 443.

Furquharson, James, 280.

Gesner, Frank X., 438.  
Gilyard, Richard, 493.

Gomes, Angel E., 89.  
Goodale, Richard H., 262.  
Grist, E. A., 444.

Henderson, J. A., 499.  
Huddleston, L. F., 83.  
Hutchings, L. M., 441.

Jeffers, Henry W., 495.  
Joshua, Jean O., 268.

Krill, Walter R., 499.

LaFond, L. H., 263.  
Lopez-Pacheco, O. A., 277.

McCoy, John, 191.  
McGrath, Elinor, 80.  
Mace, Don L., 360.  
Marah, Hadleigh, 264.  
Mauger, H. M., 85.  
Mayo, M. S., 379.  
Mederak, Eleanor, 287.  
Merillat, L. A., 278.  
Mingle, C. K., 260.  
Mosier, J. E., 262.

Ormanee, Robert, 493.

Pallister, E. F., 499.  
Parson, Maria C., 277.  
Perry, Florence A., 499.  
Pleuger, C. A., 85.  
Reid, Mrs. Nell B. H., 335.  
Reynolds, U. B., 262.  
Ruebke, Henry J., 444.

Saito, Kogi, 502.  
Seamore, Dan F., 445.  
Scheidt, S. F., 88.  
Schlotthauer, C. F., 248.  
Schroeder, J. D., 199.  
Sehorn, Marion W., 191.  
Seil, Richard A., 443.  
Smith, Connor D., 84.  
Smith, Hilton A., 444.  
Smith, Stanley N., 84.  
Stein, C. D., 260.  
Stephenson, Mrs. C. Guy, 499.  
Swanson, Melvin J., 352.

Thordal-Christensen, Anne, 83.  
Tierke, Ernest S., 246.  
Tunnicliff, E. A., 264.

Venables, Joseph W., 350.  
Von Decken-Luers, Rikki, 360.

Wegner, E. E., 191, 248.  
Wells, John R., 294.  
Wheat, John D., 262.

Ziegzig, Alexander, 354.  
Zepp, C. P. Sr., 271.

### Deaths

Adair, Hugh H., 361.  
Allott, Alfred J., 503.  
Alva, Alexander E., 192.

## VOLUME INDEX

Andrews, Frank H., 302.  
Arnold, John J., 301.

Bullett, Edgar J., 303.  
Burdall, Plinio Carlo, 302.  
Burnes, Frank E., 270.  
Burr, F. H., 446.  
Beavers, Glenn R., 30.  
Biswanger, Leonard R., 303.  
Boad, L. P., 361.  
Brocq-Besseau, D., 357.  
Brown, H. F., 361.  
Buchler, Cleo J., 30.  
Busman, Herman, 361.  
Byron, Anton E., 361.

Call, Carl E., 30.  
Campbell, John E., 361.  
Carson, George M., 303.  
Cavazzi, Julius, 192.  
Christy, W. L., 30.  
Clarke, J. Woodward, 361.  
Cochrane, J. E., 30.  
Coover, W. E., 361.  
Coulson, Dolly Deanne, 361.  
Crumbrough, Lawrence W., 361.

Davis, H. J., 192.  
DeMoss, William R., 446.  
Dohner, Clyde, 303.  
Donahoe, Michael, 303.  
Drum, Lloyd C., 303.

Edwards, Ira W., 361.

Fisher, Edward, 446.  
Fitch, David N., 361.  
Fletcher, Arthur T., 363.  
Fredette, L. G., 364.

Giltner, Ward, 239, 270.  
Glover, J. J., 304.  
Graves, Fred, 361.  
Gregory, James M., 301.  
Gregory, Richardson T., 361.

Hausjes, Charles H., 304.  
Hansen, O. W., 361.

Hester, Cecil J., 30.  
Headt, W. H., 30.  
Hoogen, J. H., 361.  
Holder, E. H., 361.  
Hopper, John E., 446.  
Horner, Perry W., 304.  
Horton, I. W., 304.  
Hostettler, Harvey, 304.  
Howe, Walter E., 361.  
Hunter, James M., 304.

Ingram, Sherman, 304.

James, George W., 304.  
Jensen, Henry A., 192.  
Jones, Frank, 361.

Kelter, Clinton F., 361.  
Kelly, R. J. Jr., 30.  
Killam, Benjamin J., 479, 504.  
Kingman, John C., 361.  
Knobel, Edward, 361.  
Koen, John Stratton, 304.

Lee, William H., 361.  
Lewis, Harold M., 361.  
Lipp, Charles C., 362.  
Lynch, W. Harry, 362.

McCallum, Frank B., 362.  
McLeod, Alex W., 192.  
McNeal, Neal, 270.  
McQuiston, Roy B., 362.  
Mann, Roy L., 30.  
Miller, G. N., 446.  
Miller, Paul W., 364.  
Molinare, Peter B., 362.  
Morgan, Banner Bill, 446.  
Murray, C. A., 362.  
Myers, John F., 362.

Newman, H. R., 362.

O'Herre, Guy L., 30.  
Olds, Benjamin H., 30.

Oosten, Robert Y., 30.  
Owen, Edward R., 30.

Parrish, Guy M., 304.  
Paul, Bert E., 304.  
Porter, Frank D., 362.  
Porter, Henry D., 304.

Quilland, John D., 30.  
Quigley, Martin L., 362.

Rich, John L., 304.  
Ring, Edwin S., 362.  
Rohy, Albert A., 362.

Schweizer, Lewis Ellis, 362.  
Shum, Zay C., 362.  
Simmons, G. P., 362.  
Simmons, Henry C., 30.  
Smith, Harvey E., 362.  
Smith, W. H., 446.  
Stauder, Kirk W., 30.  
Stratton, L. J., 30.  
Strong, Frederick S., 304.  
Sullivan, J. Ralph, 30.  
Sutherland, R. C., 446.  
Swift, Thomas L., 362.

Tunsey, Edward J., 362.  
Taylor, George A., 304.  
Taylor, V. G., 362.  
Taylor, Warren J., 30.

Van Winkle, C. O., 362.  
Vollmer, C. G., 364.

Weeks, Harry S., 362.  
Weiss, Lee, 304.  
Wells, Charles H., 446.  
West, George F., 361.  
White, C. A. Sr., 362, 438.  
Williams, C. V., 362.  
Woodrow, Henry O., 362.

## Index of Subjects

### A

Abattoir Project, A Basic. 30.  
Abortion, Acid-Fast Spprophytes in Bovine. 432.  
Abortion in Goats Enzootic. 479.  
Abstracts. 61, 158, 240, 335, 430, 479.  
Abstracts of Papers to be Presented at the AVMA Eighty-Seventh Annual Meeting. 162.  
Accredited Herd Testing in New York. 222.  
Acetonemia. 128.  
ACTH in Eye Disease. 38.  
Actinomycosis, Cross-Infection with Human and Bovine. 222.  
Actinomycosis in Dogs. 302.  
Actinomycosis in Silver Fox. 480.  
Actinomycosis, Mercuric Chloride in. 404.  
Adhesions, Peritoneal. 391.  
Advisory Committees, Hearings Requested for. 484.  
Advisory Committee Meets, Emergency. 484.  
Advisory Committee to Selective Service Appointed, National. 484.  
Agglutinins Against Pasteurella Tularensis in Serums of Naturally Infected Sheep. Persistence of. 405.  
Aggressiveness, Swine. Erysipelas. 241.  
Air Contamination, Lyophilization and. 236.  
Allergy, Animal. 469.  
Amendments to Constitution and Administrative By-Laws, Proposed. 486.  
Among the States and Provinces. 79, 189, 280, 350, 438, 492.  
Analogue of Infant Diarrhea in Animals? 316.  
Anaplasmosis in the United States, Theileria Mutans Associated with Bovines. 134.  
Anatomy of the Dog. Topographic. 338.  
Antoxime, The Principles of. 180.  
Anemia and Hypoproteinemia, Canine. 138.  
Anesthesia for Zoo Animals. 123.  
Anesthesia in Dogs, The Combined Use of Pentobarbital Sodium and Methadone Hydrochloride for. 41.  
Anesthesia, Ovine. 123.  
Anesthesia, Restraint Through. 201.  
Anesthesia with Chloral Hydrate, Cat. 336.  
Anesthetic, Xylocaine, New Local. 299.  
Animal Allergy. 469.  
Animal Science. 336.  
Antihistamines. 133.  
Anti-Anemia Factors, The. 331.  
Antibacterial Drugs in Bovine Mastitis. 414.  
Antibiotic Drugs in Feeds, What the FDA Says About. 214.  
Antibiotics, Compatibility of. 233.  
Antibiotics in Diseases of Swine, Use of. 418.  
Antibiotics in Viral Infections. 458.  
Antibiotic Treatment of Vibrionic Sterility in Dairy Cows, Intravaginal. 388.  
Antirabic Vaccine, 329.  
Antiseptics, Skin Antiseptics—Evaluation of Effectiveness of Widely Employed (Film). 483.  
APT, The Relation of Vitamin B<sub>12</sub> to. 425.  
Apomorphine in Dogs. 217.  
Applications, 74, 164, 250, 348, 437, 490.  
Aptitude Test for Veterinary Medicine, The Development of an. 96.  
Argentina, Sheep Parasites in. 61.  
Artificial Insemination in 1949. 299.  
Artificial Insemination (Germany). 358.  
Artificial Insemination, The Ratio of Male and Female Calves Produced by Natural Breeding and. 454.  
Ascarasis (Film). 182.  
Assets of General Practice, The. 453.  
Atabrin, Canine Giardiasis Treated with. 470.  
Aureomycin as a Growth Stimulant. 214.  
Aureomycin, Brucellosis Treatment with. 240.  
Aureomycin in the Treatment of Bovine Mastitis. 392.  
Aureomycin Ointment Used in Infections of the Eye, Ear, and Skin in Dogs and Cats. 462.  
Aureomycin on Staphylococcus Pyogenes in the Bovine Mammary Gland, Effects of. 396.  
Aureomycin, Treatment of Infectious Sinusitis of Turkeys with. 139.  
Avian Kidneys, Circulation in the. 420.  
Avian Pneumoencephalitis, Asiatic Form of. 351.  
Avian Pneumoencephalitis Virus, Resistance of. 310.

Avian Tuberculosis in Swine. 474.  
AVMA Award. 278.

### B

Baby Pig Troubles, Causes of. 470.  
Bacillus, Typing Koch's. 228.  
Bacitracin in Equine Strangles. 398.  
Bacitracin in Small Animal Medicine, The Use of. 308.  
Bacitracin, Mastitis Treatment with Subtilin and. 158.  
Bacteriological Cultures, Biological Agents and. 480.  
Bacteriologic Study of Mare's Milk, A Biochemical. 303.  
Bags, Studies on Sanitizing Used Feed. 324.  
Barbiturate Poisoning, Sodium Succinate in. 214.  
Barn Material, Survival of Mastitis Streptococci in. 330.  
Beak Ridge Small Animal Hospital. 94.  
Biochemical Analysis. 206.  
Biochemical and Bacteriologic Study of Mare's Milk. A. 303.  
Biochemistry, Annual Review of. 337.  
Births. 90, 360, 446, 503.  
Bitch—A Case Report, Dystocia in a. 300.  
Blackleg in Deer. 212.  
Blood Groups in Cattle. 432.  
Blue Baby Case. 299.  
Books and Reports. 62, 160, 243, 337, 433, 490.  
Border Award. 280.  
Bovine Anaplasmosis in the United States, Theileria Mutans Associated with. 134.  
Bovine Actinomycosis, Cross-Infection with Humans and. 222.  
Bovine Brucellosis, Treatment of. 335.  
Bovine Engorgement. 464.  
Bovine Hepatic Telangiectasis. 61.  
Bovine Hyperkeratosis. 423.  
Bovine Mammary Gland, Effects of Aureomycin on Staphylococcus Pyogenes in the. 286.  
Bovine Mastitis, Antibacterial Drugs in. 414.  
Bovine Mastitis, Aureomycin in the Treatment of. 392.  
Bovine Mastitis, Hypersensitivity in. 237.  
Bovine Mastitis, Nitrofurasone—A Practical Antibacterial Agent for. 49.  
Bovine Trichomoniasis, Treatment of. 228.  
Breeding and Artificial Insemination, The Ratio of Male and Female Calves Produced by Natural. 454.  
Breeding in Cattle, Egg-Transfer. 122.  
Breeding in Dairy Cattle, Delayed. 389.  
Breeding, Sterility and Delayed. 339.  
Breed on Canine Distemper, Influence of. 408.  
Bringing Up Your Puppy (Film). 341.  
Bronchitis Virus, Pathology of the Chicken Embryo Infected with Infectious (An Abstract). 412.  
Brucella Agglutinins, Unaccountable. 299.  
Brucella Infection in Cattle, Persistence of. 159.  
Brucella Ring Test, The. 158.  
Brucella Vaccination, Mucoid. 473.  
Brucellosis. 338.  
Correction. 482.  
Brucellosis Among Veterinary Students. 352.  
Brucellosis and Its Relationship to Sanitary Milk Control. 473.  
Brucellosis as an Occupational Hazard. 39.  
Brucellosis Committee, M Vaccine Studied by National. 53.  
Brucellosis Conference, Swine (Iowa). 262.  
Brucellosis Congress. 163.  
Brucellosis Control Committee, Iowa. 53.  
Brucellosis Control, Range Herd. 365.  
Brucellosis, Equine (Italy). 358.  
Brucellosis Education. 330.  
Brucellosis Eradication Program, A State Association Suggests a. 428.  
Brucellosis, Incubation Period of. 431.  
Brucellosis, Incubation Periods in. 240.  
Brucellosis in Guinea Pigs, Streptomycin in Experimental. 61.  
Brucellosis, Notes on. 222.  
Brucellosis of the Spine (Italy). 352.  
Brucellosis Picture Is Brighter. 473.  
Brucellosis Prevention. 224.  
Brucellosis Reactors to Market and Reorganization Plan

27. National Legislative Items: Interstate Movement of. 248.  
 Brucellosis Revaccination. 474.  
 Brucellosis, Treatment of Bovine. 235.  
 Brucellosis Treatment with Aureomycin. 240.  
 Brucellosis Treatment with Chloramphenicol. 335.  
 Bruises. Loss from Cattle. 218.  
 Bull Semen. Diluents for. 62.  
 Bull Semen. Evaluation of. 480.  
 Bulls. Trichomoniasis in. 337.

C

Calf. Blue Baby. 299.  
 Calf. Congenital Cerebellar Hypoplasia in a Holstein-Friesian. 460.  
 Calf herd. Moniesis Infection in a. 52.  
 Calves. Darrness of Human Infants and. 61.  
 Calves. Hoof Trimmers for Dehorning. 122.  
 Calves. Latent Congenital Ichthyosis in. 462.  
 Calves Produced by Natural Breeding and Artificial Insemination. The Nature of Male and Female. 424.  
 Calves. Virus Pneumonitis in. 260.  
 Canada. Science Service in. 243.  
 Cancer May Be Hereditary. Eye. 419.  
 Canine Anemia and Hypoproteinemia. 158.  
 Canine Distemper and Human Influenza. 241.  
 Canine Distemper. Influence of Breed on. 408.  
 Canine Giardiasis Treated with Atebrin. 470.  
 Canine Glaucoma. Pathogenesis of. 419.  
 Canine Enterotoxemia. Sulfa-methazine for. 150.  
 Cardiac Disease in Dogs. 389.  
 Carcinoma Studies in Cattle. 54.  
 Cat Anesthesia with Chloral Hydrate. 338.  
 Cat. Histoplasmosis in a. 43.  
 Cat. How to Live with a. 434.  
 Cats. Aureomycin Ointment Used in Infections of the Eye, Ear, and Skin in Dogs and. 462.  
 Cattle. An Outbreak of Tick Paralysis in (film). 434.  
 Cattle. Areas of Sensitivity in. 336.  
 Cattle Blood Groups in. 432.  
 Cattle. Bruises. Loss from. 218.  
 Cattle. Carcinoma Studies in. 54.  
 Cattle. Delayed Breeding in Dairy. 389.  
 Cattle. Diagnosis of Liver Fluke Infection in. 127.  
 Cattle. Egg-Transfer Breeding in. 122.  
 Cattle from Postmortem Findings. Tracing Tuberculosis. 474.  
 Cattle Grubs. Soil Moisture in Relation to. 56.  
 Cattle. Hereditary Infertility in. 432.  
 Cattle. Hormones for. 458.  
 Cattle. Infertility in Dairy. 458.  
 Cattle. Lungworm Disease in (film). 245.  
 Cattle. Persistence of Brucella Infection in. 159.  
 Cattle. Practice. The Practical Use of Diethylstilbestrol. 450.  
 Cattle. Diseases. 141.  
 Cattle. Wheat Poisoning in. 475.  
 Cecoscopy in the Horse. A Practical Experimental Procedure. 456.  
 Central Office Staff Assignments. Changes in AVMA. 244.  
 Cerebellar Hypoplasia in a Holstein-Friesian Calf. Congenital. 460.  
 Champion. Way of a Field (film). 246.  
 Chickens. Embryo Injected with Infectious Bronchitis Virus. Pathology of the (An Abstract). 412.  
 Chicks. Today's (film). 434.  
 Chinchillas. Diseases of. 241. \*
 Chloral Hydrate. Cat Anesthesia with. 338.  
 Chloride Toxicity. 159.  
 Chloramphenicol. Brucellosis Treatment with. 235.  
 Civil Defense. The Veterinarian's Responsibility in. 333.  
 Civil Defense. United States (A Book Review). 450.  
 Classification of Animals. The. 339.  
 Clinical Data. 48, 126, 206, 302, 391, 488.  
 Club Practice in New Zealand. 233.  
 Coccidiosis in the Dog—Clinical Observations. 227.  
 Coccidiosis. Treatment of. 430.  
 Coenurosis. Listeriosis and. 330.  
 College of Veterinary Pathologists. American. 66.  
 Colossal Immunity. The Matter of. 241.  
 Commencements. 182.  
 Committees. Gleanings from Reports of AVMA. 225.  
 Communicable Diseases in Man. The Control of. 239.  
 Community. The Veterinarian's Responsibility to His. 91.

Congenital Cerebellar Hypoplasia in a Holstein-Friesian Calf. 460.  
 Congress. Brucellosis. 185.  
 Congress. Committee Appointed for First Pan American. 244.  
 Congress. Dates Set for First Pan American. 238.  
 Conjunctival Flap Operation. 44.  
 Conjunctivitis. Penicillin Ointment in. 129.  
 Control of Animal Diseases. 423.  
 Control or Perpetuation. Disease. 236.  
 Conservation and Disease Eradication. 426.  
 Constitution and Administrative By-Laws. Proposed Amendments to. 58.  
 Cooperation of Veterinarians Essential. 473.  
 Correction. 422.  
 Correction. AVMA Directory. 66, 249.  
 Cortisone. 245.  
 Cortisone Experiments at M.S.C.. 497.  
 Council on Education. New Veterinary Schools in Georgia and Missouri Approved by. 65.  
 Cows. Endocrine Excretion in Nonpregnant. 432.  
 Cows. Intrauterine Antibiotic Treatment of Vibrioic Sterility in Dairy. 388.  
 Cows. Lowered Fertility in Clinically Normal. 380.  
 Cows. Personal Towels for. 135.  
 Cross. The Veterinarian's. 432.  
 Creep-Feeding Pigs. 332.  
 Crocodile—A Case Report. Gastrotomy in a. 297.  
 Current Literature. 61, 158, 240, 335, 450, 479.  
 Curriculum. Veterinary Pathology. 164.  
 Cushing's Experiment with the Dog (Film). 162.  
 Cysticercosis and Trichinosis. 100.

D

Dairy Cattle. Delayed Breeding in. 389.  
 Dairy Cattle. Infertility in. 434.  
 Dairy Cattle Practice. The Practical Use of Diethylstilbestrol in. 459.  
 Dairy Cows. Intrauterine Antibiotic Treatment of Vibrioic Sterility in. 388.  
 Dairy Cows. Water for. 325.  
 Deaths. 90, 192, 276, 361, 448, 503.  
 Deer. Blocking in. 212.  
 Defense. The Veterinarian's Responsibility in Civil. 333.  
 Deficiency Causes Paralysis in Pigs. 479.  
 Dehorning Calves. Hoof Trimmers for. 122.  
 Diamond Skin Disease (Chronic Erysipelas) in a Turkey. 465.  
 Diarrhea in Animals? Analogue of Infant. 310.  
 Diarrhea of Human Infants and Calves. 61.  
 Dietetics. Animal Nutrition and Veterinary. 433.  
 Diethylstilbestrol in Dairy Cattle Practice. The Practical Use of. 459.  
 Diluents for Bull Semen. 62.  
 Directory Correction. AVMA. 66, 249.  
 Disease Control. The Price of. 153.  
 Dispensing Agent. Hydrocortisone—The New. 214.  
 Distemper and Human Influenza. Canine. 241.  
 Distemper. Influence of Breed on Canine. 408.  
 Dog Bites. Treatment of. 289.  
 Dog—Clinical Observations. Coccidiosis in the. 227.  
 Dog—Cushing's Experiment with the (film). 162.  
 Dog Food. Portability of. 238.  
 Dog. Guinea Worm (Dracunculus Insignis). Leidy 1858. Infection in a. 215.  
 Dog. Koepisch's Medullary Nailing in Femur Fractures of the. 381.  
 Dog. Leptospirosis in a. 479.  
 Dog. Malignant Melanoma of the Oral Mucosa in a. 222.  
 Dog Owners Guide. 161.  
 Dog. Actinomycosis in. 302.  
 Dogs and Cats. Aureomycin Ointment Used in Infections of the Eye, Ear, and Skin in. 462.  
 Dogs. Apomorphine in. 217.  
 Dogs. Cardiac Disease in. 363.  
 Dogs. Established at Cornell. Research Laboratory for Diseases of. 268.  
 Dogs. The Combined Use of Pentobarbital Sodium and Methadone Hydrochloride for Anesthesia in. 41.  
 Dogs. Thyroid Stimulation in. 159.  
 Dogs. Trichinosis in (Greenland). 358.  
 Dog. Topographic Anatomy of the. 338.

Dog, Training You to Train Your (Basic) (Film), 246.  
 Dog, Training You to Train Your (Advanced) (Film), 181.  
 Don't Keep It Secret, 427.  
 Dourine (Poland), 359.  
 Dourine Test, 480.  
 (Dracunculus Insignis, Leidy 1858) Infection in a Dog, Guinea-Worm, 215.  
 Draft Bill Passes, Professional, 342.  
 Ducks, New Virus Disease of Long Island, 323.  
 Dues, Important Resolution on, 334.  
 Dystocia in a Bitch—A Case Report, 300.

## E

Ear, and Skin in Dogs and Cats, Aureomycin Ointment Used in Infections of the Eye, 482.  
 Ecology of Animals, The, 461.  
 Editorial, 59, 156, 237, 335, 426, 477.  
 Educational Programs, 427.  
 Egg, A Hen Makes an (Film), 63.  
 Egg-Transfer Breeding in Cattle, 122.  
 Elephant Necropsy of an (PMF 3011) (Film), 63.  
 Embryo Infected with Infectious Bronchitis Virus, Pathology of the Chicken (An Abstract), 412.  
 Emergency Advisory Committee Meets, 484.  
 Emergency Committee Appointed, National, 435.  
 Encephalitis, Fox, 479.  
 Encephalomyelitis in the United States in 1949, Infectious Equine, 210.  
 Endocrine Excretion in Nonpregnant Cows, 432.  
 Enlargements, Bovine, 464.  
 Enrollment for the Academic Year 1950-1951, Student, 485.

Enteritis-Pneumonia Syndrome in Swines, Mixed Sulphonamides (Merameuth) for, 487.  
 Enterotoxemia, Penicillin Therapy in, 323.  
 Enterotoxemia, Sulphonamethoxine for Cervine, 150.  
 Enzootic Abortion in Goats, 479.  
 Enzootic Mycosis in Mink, 326.  
 Erythrothrossenosis in Swine, 323.  
 Erythrothrossenosis of Swine, Neosarsphenamine in Acute, 371.  
 Equine Brucellosis (Italy), 358.  
 Equine Encephalomyelitis in the United States in 1949, Infectious, 210.  
 Equine Narcotic, New, 123.  
 Equine Strangles, Bacitracin in, 399.  
 Eradication, Conservation and Disease, 426.  
 Erysipelas Aggressus, Swine, 241.  
 (Erysipelas, Chronic) in a Turkey, Diamond Skin Disease, 485.  
 Erysipelas in Turkeys, Results of Penicillin Treatment During an Outbreak of, 142.  
 Erythrocyte Formation, Iron Metabolism and, 478.  
 Estrous Cycle in the Mare, 47.  
 Evolution, Mendelian and, 338.  
 Executive Board, Drs. Schlotthauer and Wagner Elected to, 248.  
 Executive Board Nominees in Districts V and VII, 65.  
 Exhibits, Motion Pictures Added to Scientific, 165.  
 Eye Cancer May Be Hereditary, 418.  
 Eye Diseases, ACTH in, 38.  
 Eye, Ear, and Skin in Dogs and Cats, Aureomycin Ointment Used in Infections of the, 482.  
 Eyeworm of Poultry, 431.

## F

FDA Says About Antibiotic Drugs in Feeds, What the, 214.  
 Federal Poultry-Labeling Plan, AVMA Files Protest Against, 184.  
 Feed Bugs, Studies on Sanitizing Used, 324.  
 Feed, What the FDA Says About Antibiotic Drugs in, 214.  
 Female Calves Produced by Natural Breeding and Artificial Insemination, The Ratio of Male and, 454.  
 Femur Fractures of the Dog, Kuentzsch's Medullary Nailing in, 381.

Fertility in Clinically Normal Cows, Lowered, 380.  
 Fifty Years Ago, 229.  
 Films, Review of Veterinary Medical, 63, 151, 245, 341, 434, 485.  
 Finocinch Tungsten, How To Avoid, 243.  
 Fluids, A Technique for the Slow Infusing of, 403.  
 Fluke Infection in Cattle, Diagnosis of Liver, 127.  
 Foal, Hematology of Mares in, 338.  
 Foal, Surgical Relief of Impaction in the Newborn, 46.  
 Food, Paintability of Dog, 236.  
 Foot-and-Mouth Disease Hemagglutination Test, 480.  
 Foot-and-Mouth Disease Outbreak (Tripoli), 358.  
 Foot-and-Mouth Disease Outbreak (Venezuela), 303.  
 Foot-and-Mouth Disease Research, Congress Kills Plan for U. S., 489.  
 Foot-and-Mouth Disease Research, Prudence Island Selected for, 40.  
 Foot-and-Mouth Disease, See Hope of Eradicating Mexico, 422.  
 Foot-and-Mouth Disease Virus Cultivation, 62.  
 Foreign News, 68, 181, 288, 357, 444, 501.  
 Foreign Veterinary Schools Listed by the Council on Education, 343.  
 Formulary, The National, 433.  
 Fowl Plague Vaccine, 305.  
 Fox, Actinomycosis in Silver, 480.  
 Fox Encephalitis, 479.  
 Foxes, Color Inheritance in Polar, 480.  
 Fox Ricketts and Tularemia, 480.  
 Fracture Fixation in a Heifer, 389.  
 Fracture in an Aged Stallion, Tibial, 199.  
 Fractures of the Dog, Kuentzsch's Medullary Nailing in Femur, 381.  
 Fringed Tapeworm from Sheep, Removal of the, 471.  
 Fur Animal Research Laboratory, 257.

## G

Gastritis and the Metal Detector, Traumatic, 404.  
 Gastrotomy in a Crocodile—A Case Report, 297.  
 Gelatoin in Veterinary Surgery, Some Uses for (Film), 341.  
 General Practice, The Assets of, 453.  
 Giardiasis Treated with Atobrine, Canine, 470.  
 Glands, Streptomycin in, 48.  
 Glaucoma, Pathogenesis of Canine, 419.  
 Gleanings from Reports of AVMA Committees, 225.  
 Goats, Enzootic Abortion in, 479.  
 Goat, Mastitis in a, 148.  
 Goats, Transmission of Rickettsiae Conjunctivitis to, 409.  
 Goats, Soil Moisture in Relation to Cattle, 56.  
 Guinea Pigs, Streptomycin in Experimental Brucellosis in, 61.  
 Guinea-Worm (Dracunculus Insignis, Leidy 1858) Infection in a Dog, 215.

## H

Hamster-Adapted NDV, 431.  
 Hard Pad Disease, 482.  
 Hatcheries, Pig, 458.  
 Hay, Quality Factors in, 332.  
 Healing, Mechanical Factors in Wound, 301.  
 Heat Lamps for Sows, 201.  
 Heifer, Fracture Fixation in a, 389.  
 Heifers, Two Precocious, 290.  
 Hematology of Mares in Foal, 336.  
 Hemolytic Icterus of the Newborn Mule, 329.  
 Hemolytic Maladies of Newborn Animals, 477.  
 Hepatic Telangiectasia, Bovine, 61.  
 Herd Testing in New York, Accredited, 222.  
 Histamine-Sympathin Balance, 241.  
 Histoplasmosis, 470.  
 Histoplasmosis in a Cat, 43.  
 Horse Day Exercises, New York State Veterinary College, 265.  
 Hoof Trimmers for Dehorning Calves, 123.  
 Hormones and Reproduction, 138.  
 Hormones for Cattle, 459.  
 Horse Blood, Auto-isoantibodies in, 432.  
 Horse, Colectomy in the, A Practical Experimental Procedure, 456.

Horseman's Companion. The. 244.  
 Horses. Chronic Swelling of the Maxilla of Young. 411.  
 Horses. Cross Country. 244.  
 Horses. Recommended Nutrient Allowances for. 154.  
 Horses. Recurrent Iridocyclitis (Periodic Ophthalmia) of. I. Agglutination and Lysis of Leptospirae by Serums Deriving from Horses Affected with Recurrent Iridocyclitis. 207.  
 Horse. Tuberculin Reaction in the. 432.  
 Hospital. Backing Ridge Small Animal. 94.  
 Humane Act Award. 287.  
 Human Infants and Calves. Diarrhoea of. 61.  
 Human Nutritional Problems. The Soil Factor in. 425.  
 Hyaluronidase. 432.  
 Hyaluronidase—The New Dispensing Agent. 214.  
 Hyperkeratosis. Bovine. 423.  
 Hyperkeratotic Conference. 48.  
 Hyperkeratotic Treatment of. 148.  
 Hypersensitivity in Bovine Mastitis. 337.  
 Hypoplasia in a Holstein-Friesian Calf. Congenital Cerebellar. 480.  
 Hypoproteinemia. Canine Anemia and. 158.

Ichthyosis in Calves. Lethal Congenital. 422.  
 Ictero-Anemia in Swine. 335.  
 Ictus of the Newborn Mule. Hemolytic. 329.  
 Illustrators' Directory. Medical. 66.  
 Immunity. The Matter of Cattle. 241.  
 Immunization Against Newcastle Disease (Pneumonocapillitis). A Field Test of. 144.  
 Impaction in the Newborn Foal. Surgical Relief of. 48.  
 Incubation Period in Brucellosis. 240.  
 Infant Diarrhea in Animals. Analogue of. 310.  
 Infectious Escherichia Enterophlyomatosis in the United States in 1949. 210.  
 Infectious Sinusitis of Turkeys with Aureomycin. Treatment of. 139.  
 Inertility in Cattle. Hereditary. 432.  
 Inertility in Dairy Cattle. 459.  
 Influenza. Canine Distemper and Human. 241.  
 Infusion of Fluids. A Technique for the Blow. 403.  
 Inheritance in Polar Foxes. Color. 480.  
 Insemination in 1949. Artificial. 299.  
 Insemination. The Ratio of Male and Female Calves Produced by Natural Breeding and Artificial. 454.  
 Inspection. Action Postponed on U.S. BAI Interstate Meat. 164.  
 Intramedullary Pinning. A New Method of Permanent. 222.  
 Interstate Meat Inspection. Action Postponed on U.S. BAI. 164.  
 Intravaginal Antibiotic Treatment of Vibrionic Sterility in Dairy Cows. 368.  
 Intravital Staining. 480.  
 "International, The." 428.  
 International Veterinary Congress Prize. Dr. Maya Awarded Twelfth. 379.  
 Iodine Poisoning. 470.  
 Iodine Without the Sting. 206.  
 Iowa Brucellosis Control Committee. 53.  
 Iowa. Objective in. 228.  
 Iridocyclitis (Periodic Ophthalmia) of Horses. Recurrent. I. Agglutination and Lysis of Leptospirae by Serums Deriving from Horses Affected with Recurrent Iridocyclitis. 207.  
 Iron Metabolism and Erythrocyte Formation. 476.  
 Iron Tonics. 56.  
 Isotopes. Radioactive. 243.  
 Israel. Leptospirosis in. 240.  
 Israel. Swineherd's Disease (Leptospirosis) in. 479.

## J

Johnin and Tuberculin Tests. 159.  
 Journals Available. Microfilms of AVMA. 65.

## K

Ketosis. Milk Fever and. 291.  
 Kidney. Circulation in the Avian. 430.  
 Klobock Disease. 431.  
 Knee Pents. 239.  
 Koch's Bacillus. Typing. 226.  
 Kuehnle's Medullary Nailing in Femur Fractures of the Dog. 381.

## L

Laboratory Methods. Clinical. 433.  
 Laboratory Techniques for Practicing Veterinarians. 469.  
 Lamba. Methods of Internal Parasite Control in Sheep and. 136.  
 Leptospirae by Serums Deriving from Horses Affected with Recurrent Iridocyclitis. I. Agglutination and Lysis of. Recurrent Iridocyclitis (Periodic Ophthalmia) of Horses. 207.  
 Leptospirosis. 322.  
 Leptospirosis in a Dog. 479.  
 Leptospirosis in Israel. 240.  
 (Leptospirosis) in Israel. Swineherd's Disease. 479.  
 Leptospirosis. Susceptibility of Pups to. 242.  
 Lift the Veil of the Near East. 157.  
 Listeriosis and Coonrosis. 330.  
 Liver Fluke Disease in Sheep (Film). 63.  
 Liver Fluke Infection in Cattle. Diagnosis of. 251.  
 Los Angeles Q Fever Situation. 251.  
 Lungworm Disease in Cattle (Film). 245.  
 Lyophilisation and Air Contamination. 336.

## M

Main Street. 244.  
 Male and Female Calves Produced by Natural Breeding and Artificial Insemination. The Ratio of. 454.  
 Malignant Melanoma of the Oral Mucosa in a Dog. 223.  
 Mammary Gland. Effects of Aureomycin on Staphylococcal Pyrogenes in the Bovine. 396.  
 Man's Best Friend (Film). 161.  
 Mare. The Control of Communicable Diseases in. 329.  
 Mare. Estrous Cycle in the. 47.  
 Mare. Foal. Hematology of. 238.  
 Mare's Milk. A Biochemical and Bacteriologic Study of. 303.  
 Mare. Tests for Pregnancy in. 432.  
 Mare. Twins in. 124.  
 Mare. Torn Uterus in a. 47.  
 Marriages. 320, 503.  
 Mastitis. Antibacterial Drugs in Bovine. 414.  
 Mastitis. Aureomycin in the Treatment of Bovine. 392.  
 Mastitis Caused by Yeast. 431.  
 Mastitis. Coagulation. 431.  
 Mastitis Control. 49.  
 Mastitis Control. Another View on. 422.  
 Mastitis Detection. 431.  
 Mastitis. Hypersensitivity in Bovine. 337.  
 Mastitis in a Goat. 148.  
 Mastitis. Nitrofurazone—A Practical Antibacterial Agent for Bovines. 49.  
 Mastitis Prevention. 328.  
 Mastitis Problem. An Approach to the. 130, 189, 211.  
 Mastitis Substances in Barn Materials. Survival of. 330.  
 Mastitis. Sulphene and Penicillin Separately and Combined in the Treatment of Streptococcal. 400.  
 Mastitis. The Pathogenesis of. 158.  
 Mastitis Treatment with Sulphene and Bacitracin. 158.  
 Moxilla of Young Horses. Chronic Swelling of the. 411.  
 Medicines Could Be Verse. 244.  
 Medicines Aligned by Fourteen Companies. Sales of Veterinary. 198.  
 Medullary Nailing in Femur Fractures of the Dog. Kuehnle's. 381.  
 Melanoma of the Oral Mucosa in a Dog. Malignant. 223.

(*Melophagus Ovinus* Linn). High Pressure Sprays in Control of the Sheep Tick. 447.  
 Mendelian and Evolution. 338.  
 Metabolism and Erythrocyte Formation. Iron. 478.  
 Metal Detector. Traumatic Gastritis and the. 404.  
 Methadone Hydrochloride for Anesthesia in Dogs. The Combined Use of Pentobarbital Sodium and. 41.  
 (Meromethyl) for Enteritis-Pneumonia Syndrome in Swine. Mixed Sulfonylureas. 467.  
 Merck Manual. The. 160.  
 Mercuric Chloride in Actinomycosis. 404.  
 Miami Beach Session. The:  
     A Message from President Zupp. 1.  
     Officers of the AVMA in 1949-1950. 2.  
     Executive Board. 2  
     House of Representatives. 3.  
     The 1950 Session—Official Call. 4.  
     General Officers of the Local Committee. 4.  
     Message from Chairman Committee on Local Arrangements. 5.  
     Chairmen of the Local Committees. 6.  
     Committees on Local Arrangements. 8.  
     Message from the Chairman of the Committee on Women's Activities. 10.  
     Teenager's Program. 16.  
     Baby Sitter Service. 16.  
     Women's Activities. 11.  
     Message from the President of the Women's Auxiliary. 12.  
     Women's Program. 12.  
     What to Wear at Miami Beach. 12.  
     Daily Program Schedule. 13.  
     Meetings of Other Organizations. 14.  
     Conference on Public Relations. 14.  
     Conference of State Association Secretaries. 14.  
     The D.P. Veterinarian Problem. 14.  
     National Board of Examiners. 15.  
     Representatives of Student Organizations Will Meet in Miami. 15.  
     Airport Facilities at Miami. 15.  
     Car Storage and Parking at Miami Beach. 15.  
     Executive and Legislative Sessions. 16.  
     Editorial Meet. 16.  
     Opening Session. 16.  
     Conference on Ethics. 16.  
     Section Programs. 17.  
     Educational Exhibits. 23.  
     The Commercial Exhibits at Miami Beach. 25.  
     Transportation to Miami Beach. 64.  
     Latest Information on Miami Beach Hotel Reservations. 163.  
     Last-Minute Notes on the Miami Beach Convention. 163.  
     President's Address. The. 271.  
     President-Elect and Other Officers Named at Miami Beach. 284.  
 State Association Secretaries. 284.  
 Student Chapter Representatives. 285.  
 Public Relations Conference. 286.  
 Florida Team Champion Golfers. 286.  
 Humane Act Award to Canadian Girl. 287.  
 AVMA Award. 287.  
 Conference of Editors. 287.  
 Borden Award. 288.  
 Greetings from the Women's Auxiliary. 288.  
 Highlights of the Eighty-Seventh Annual Meeting. 289.  
 Women's Veterinary Medical Association. 292.  
 A Visit to Havana. 379.  
 Meeting of Deans. 379.  
 Dr. Mayo Awarded Twelfth International Veterinary Congress Prize. 379.  
 International Tour Group. 380.  
 The N.A.F.V. Meets. 380.  
 Zoo Veterinarians. 380.  
 The A.A.H.A. at Miami Beach. 380.  
 Meeting of the Veterinary Public Health Board. 380.  
 Alumni Group Meetings in Miami Beach. 485.  
 Michigan State College. The Prediction of Success in Veterinary Medicine at. 452.  
 Microfilms of AVMA Journals Available. 65.  
 Microorganisms. Rumen. 466.  
 Military Status of Veterinarians. Late Information on. 247.  
 Military Status of Veterinarians. Ret. 157.  
 Milk. A Biochemical and Bacteriologic Study of Mare's. 303.  
 Milk Control. Brucellosis and Its Relationship to Sanitary. 473.  
 Milk Fever and Ketosis. 201.  
 Milk Rare. Sale. 236.  
 Milk. Serum Dilution in. 337.  
 Milk. Sentinels of (Film). 182.  
 Mink. 330.  
 Mink Diseases. Treating. 464.  
 Mink. Enzootic Mycosis in. 336.  
 Mink. Experimental Salmonellosis in. 237.  
 Moniezia Infection in a Calf Herd. 52.  
 Monkeys. Nembutal Recommended for Surgery in. 404.  
 Mortality of Higher Life. The. 378.  
 Motion Pictures Added to Scientific Exhibits. 165.  
 Mucoid Brucelle Vaccination. 473.  
 Mucosa in a Dog. Malignant Melanoma of the Oral. 223.  
 Mule. Hemolytic Icterus of the Newborn. 329.  
 M Vaccine Studied by National Brucellosis Committee. 53.  
 Mycosis in Mink. Enzootic. 336.

N

Nailing in Femur Fractures of the Dog. Kuenischer's Medullary. 381.  
 Narcotic. New Equine. 133.  
 National Advisory Committee to Selective Service Appointed. 484.  
 National Board of Veterinary Medical Examiners. 344.  
 National Emergency Committee Appointed. 435.  
 National Security Resources Board. Functions of. 248.  
 National Veterinary Medical Association (Great Britain) Meeting in South Wales. Dr. Crawford AVMA Representative at. 249.  
 National Veterinary Medical Association (N.V.M.A.) in Wales. Annual Meeting. 485.  
 Necrographenamine in Acute Eperythrozoonosis of Swine. 371.  
 Neurolymphomatosis in a Swan. 479.  
 Newborn Animals. Hemolytic Macrides et. 477.  
 Newcastle Disease Diagnosis. 430.  
 Newcastle Disease. Epidemiology of. 242.  
 Newcastle Disease in Sweden. 479.  
 Newcastle Disease. (Pneumoencephalitis). A Field Test of Immunization Against. 144.  
 Newcastle Disease Virus (NDV). Hamster-Adapted. 431.  
 Newcastle Disease Virus Photographed. 158.  
 Newcastle Disease Virus Vaccines. 431.  
 New Jersey. Rabies-Control Program in. 152.  
 News. The. 64. 163. 247. 342. 435. 483.  
 New York. Accredited Herd Testing in. 222.  
 New York State Plan for Rabies Control. The. 484.  
 New York Veterinary News. Policy of. 233.  
 New York. Club Practice in. 233.  
 Nitrofurazone—A Practical Antibacterial Agent for Bovine Mastitis. 45.  
 Nutrient Allowances for Horses. Recommended. 154.  
 Nutrient Allowances for Sheep. Recommended. 234.  
 Nutrition. 37. 154. 234. 331. 423. 475.  
 Nutritional Deficiencies in Livestock. 243.  
 Nutritional Problems. The Soil Factor in Human. 425.  
 Nutrition and Veterinary Dietetics. Animal. 433.

O

Obstetrics. Veterinary. 82.  
 (Ophthalmic. Periodic) Recurrent Iridocyclitis of Horses. I. Agglutination and Lysis of Leptospirae by Serums Derived from Horses Affected with Recurrent Iridocyclitis. 207.  
 Ophthalmoscope. The. 461.  
 Overcrowding. 478.  
 Oxine Anesthesia. 123.  
 Ovulation. Failure of. 47.

P

Potability of Dog Food. 236.

Pan American Congress. Committees Appointed for First. 344.  
 Pan American Congress. Dates Set for First. 228.  
 Pan American Sanitary Organisation. 165.  
 Pancreas. Tumors of the. 482.  
 Paralysis. Antirabic Vaccine. 328.  
 Paralysis in Cattle. An Outbreak of Tick (film). 434.  
 Paralysis in Pigs. Deficiency Causes. 479.  
 Parasite Control in Sheep and Lambs. Methods of Internal. 136.  
 Parasites in Argentina. Sheep. 81.  
 Parkinson's Disease. 481.  
 PASS Assists During Rabies Outbreak (Puerto Rico). 355.  
 PASS Assists in Production of Rabies Vaccine (Mexico). 359.  
 PASS Headquarters to Remain in United States. 489.  
 Pasteurella Tularensis in Serums of Naturally Infected Sheep. Persistence of Agglutinins Against. 405.  
 Pasteurella Vaccine for Poultry. 430.  
 Pathogenesis of Canine Glaucoma. 419.  
 Pathogenesis of Mastitis. The. 158.  
 Pathologists. American College of Veterinary. 86.  
 Pathology Curriculum. Veterinary. 164.  
 Pathology. Importance of the Registry of Veterinary. 59.  
 Pathology of the Chicken Embryo Infected with Infectious Bronchitis Virus (An Abstract). 412.  
 Peas. Toxicity of Fist. 61.  
 Penicillin Ointment in Conjunctivitis. 129.  
 Penicillin Separately and Combined in the Treatment of Streptococcal Mastitis. Sulphone and. 400.  
 Penicillin Therapy in Enterotoxemia. 323.  
 Penicillin Therapy. Misguided. 302.  
 Penicillin Treatment During an Outbreak of Erysipelas in Turkeys. Results of. 142.  
 Pennsylvania Proceedings. 244.  
 Pentobarbital Sodium and Methadone Hydrochloride for Anesthesia in Dogs. The Combined Use of. 41.  
 Pentethal-Pronoxine Combination. 124.  
 Pentethal Sodium. Restraint of Swine with. 293.  
 (Periodic Ophthalmia) of Horses. Recurrent Iridocyclitis. I. Agglutination and Lysis of Leptospirae by Serums Derived from Horses Affected with Recurrent Iridocyclitis. 207.  
 Periorbital Adhesions. 391.  
 Pharmaceutical Survey. 243.  
 Pharmacopeial Convention. U.S. 66.  
 Pharmacopeia of the United States of America. 180.  
 Pharmacology. Veterinary. 62.  
 Phthalylsulfonamide (Thalumyd) in Veterinary Medicine. 220.  
 Physician's Handbook. 481.  
 Pig. Diseases of the. 433.  
 Pig Hatcheries. 458.  
 Pigs. Creep-Feeding. 332.  
 Pigs. Deficiency Causes Paralysis in. 479.  
 Pigs. Manganese for. 332.  
 Pig Troubles. Causes of Baby. 470.  
 Pinning. A New Method of Permanent Intramedullary. 202.  
 Placebos. 483.  
 (Pneumoencephalitis). A Field Test of Immunization Against Newcastle Disease. 144.  
 Pneumoencephalitis Virus. Resistance of Avian. 310.  
 Pneumonitis in Calves. Virus. 240.  
 Podogly. 339.  
 Poisoning in Cattle. Wheat. 475.  
 Poisoning. Iodine. 470.  
 Poisonings. Animal Diseases Confused with. 305.  
 Poisoning. Sodium Succinate in Barbiturate. 214.  
 Poultry. Eyeworms of. 431.  
 Poultry Inspectors Needed. 259.  
 Poultry-Labeling Plan. AVMA Files Protest Against Federal. 164.  
 Poultry. Pasteurella Vaccine for. 430.  
 Poultry. Regulations for Identification of Graded Dressed (Colorado). 260.  
 Poultry Work. Veterinarians and. 449.  
 Practitioner. The Private. 373.  
 Prediction of Success in Veterinary Medicine at Michigan State College. The. 452.  
 Pregnancy in Mares. Tests for. 432.  
 Pregnancy. Test for. 242.  
 "Proceedings Book" To Be Published. 234.  
 Profession. Safeguarding the. 239.  
 Protein Utilization in Sheep Following Starvation. 425.  
 Prudence Island Selected for Foot-and-Mouth Disease Research. 40.  
 Pruritus. 480.  
 Public Health Problems. World. 374.  
 Public Health Veterinarians. Conference of. 346.  
 Public Health. Wild Animals and. 480.  
 Public Health Work. Veterinarians in. 99.  
 Pullorum Variants. 479.  
 Puppy. Bringing Up Your (film). 341.  
 Puppy. How To Raise a. 482.  
 Puppy to Leptospirosis. Susceptibility of. 242.  
 Puring Research Facilities. Midwest Veterinarians Inspect. 165.

Q

Q Fever from Sheep (California). 483.  
 Quail. Ca/P Ratio for. 128.  
 "Queensland." Not "Query." 133.

R

(Rabies) Antirabic Vaccination Solid. 152.  
 Rabies Campaign (Tennessee). 499.  
 Rabies Cases in 1949 (Report 7, 1950). 151.  
 Rabies-Control Measures. 151.  
 Rabies Control Program. Denver. 80.  
 Rabies-Control Program in New Jersey. 152.  
 Rabies Control. The New York State Plan for. 484.  
 Rabies. Countries Free from. 152.  
 Rabies in Foxes (Austria). 444.  
 Rabies Is a Global Problem. 153.  
 Rabies. Laboratory Diagnosis of. 246. Corrigendum. 341.  
 Rabies. Laboratory Diagnosis of (film). 246.  
 Rabies Outbreak in Puerto Rico. 191.  
 Rabies Outbreak. PASS Assists During (Puerto Rico). 355.  
 Rabies. Paralytic. 240.  
 Rabies. Paralytic (Venezuela). 359.  
 Rabies Review. 62.  
 Rabies. Striking Back Against (film). 246.  
 Rabies. Three Steps for Controlling. 152.  
 Radioactive Isotopes. 245.  
 Radio Scripts. Twenty-Six Constituent Associations Using AVMA. 67.  
 Raisin Puring Fellowship Winners. 66.  
 Range Herd Brucellosis Control. 395.  
 Ratio of Male and Female Calves Produced by Natural Breeding and Artificial Insemination. The. 454.  
 Reactions with Sodium Salicylate. Prevention of Transfusion. 335.  
 Received But Not Reviewed. 161, 245, 340, 483.  
 Registry of Veterinary Pathology. Importance of the. 59.  
 Replication of Viruses. The 310.  
 Reports of AVMA Committees. Gleanings from. 225.  
 Reproduction. Hormones and. 158.  
 Research Facilities. Midwest Veterinarians Inspect Purina. 165.  
 Research Funds. AVMA Committee Meets Drive for. 484.  
 Research Laboratory for Diseases of Dogs Established at Cornell. 264.  
 Research Laboratory. For Animal. 257.  
 Reserve Corps. Reorganization of the. 269.  
 Resolution on Dues. Important. 394.  
 Restraint of Swine with Pentothal Sodium. 293.  
 Restraint Through Anesthesia. 201.  
 Review of Veterinary Medical Films. 63, 161, 245, 341, 424, 483.  
 Rheumatoid Disease in Swine. 402.  
 Rickettsiae Conjunctives to Goats. Transmission of. 408.  
 Rinderpest (Formosa). 444.  
 Ring Test Antigen. Control. 459.  
 Ring Test Project. 81.  
 Ring Test. The Brucellis. 158.  
 Rumen Activity. Effects of Various Drugs on. 418.  
 Rumen Microorganisms. 486.

S

Sales of Veterinary Medicines Aided by Fourteen Companies. 198.

**Salmonella Abortus Equi.** 381.  
**Salmonellosis in Mink.** Experimental. 337.  
**Sanitizing Used Food Bags.** Studies on. 324.  
**Saprophytes in Bovine Abortion.** Acid-Fast. 432.  
**Scandinavian Literature.** A Survey of. 431, 478.  
**Schools in Georgia and Missouri Approved by Council on Education.** New Veterinary. 65.  
**Science Service in Canada.** 245.  
**Scientific Information.** The Release of. 158.  
**Scouts.** Preventing White. 150.  
**Selective Service Appointed National Advisory Committee to.** 484.  
**Selective Service. Veterinarians Must Register with.** 425.  
**Semen.** Diluents for Bull. 62.  
**Semen Dilution and Sperm Viability.** 432.  
**Semen Dilution in Milk.** 337.  
**Semen Evaluation of Bull.** 480.  
**Seminal Defect Causes Sterility.** 125.  
**Seminal Hyaluronidase.** 432.  
**Sensitivity in Cattle.** Areas of. 336.  
**Sheep and Lambs.** Methods of Internal Parasite Control in. 136.  
**Sheep Following Starvation.** Protein Utilization in. 425.  
**Sheep Liver Fluke Disease in (Film).** 63.  
**Sheep Parasites in Argentina.** 61.  
**Sheep. Persistence of Agglutinins Against Pasteurella Tulerimii in Serum of Naturally Infected.** 405.  
**Sheep. Recommended Nutrient Allowances for.** 234.  
**Sheep. Removal of the Fringed Tapeworm from.** 471.  
**Sheep Shearing.** Custom. 245.  
**Sheep Tick (*Ixodes Ovinus Linn.*).** High Pressure Sprays in Control of the. 447.  
**Sinusitis in Turkeys.** Infections. 430.  
**Sinusitis of Turkeys with Aureomycin.** Treatment of Infectious. 139.  
**Skin Antiseptics—Evaluation of Effectiveness of Some Widely Employed Antiseptics (Slim).** 483.  
**Skin in Dogs and Cats.** Aureomycin Ointment Used in Infections of the Eye, Ear, and. 482.  
**Slaughterhouse Blue Prints.** Cost of. 157.  
**Small Animal Medicine.** The Use of Bacitracin in. 305.  
**Sodium Salicylate.** Prevention of Transfusion Reactions with. 333.  
**Sodium Succinate in Barbiturate Poisoning.** 214.  
**Soil Factor in Human Nutritional Problems.** The. 423.  
**Soil Moisture in Relation to Cattle Grubs.** 56.  
**Sows.** Heat Lamps for. 201.  
**Sperm Viability.** Semen Dilution and. 432.  
**Sprays in Control of the Sheep Tick (*Ixodes Ovinus Linn.*).** High Pressure. 447.  
**Staining, Intravital.** 480.  
**Stallions.** Tibial Fractures in an Aged. 199.  
**Staphylococcus Pyogenes in the Bovine Mammary Gland.** Effects of Aureomycin on. 396.  
**State Board Examinations.** 270.  
**Sterility and Delayed Breeding.** 339.  
**Sterility Conference.** 351.  
**Sterility in Dairy Cows.** Intravaginal Antibiotic Treatment of Vibrioic. 388.  
**Sterility. Notes on.** 389.  
**Sterility. Seminal Defect Causes.** 125.  
**Strangles.** Bacitracin in Equine. 399.  
**Streptococcal Mastitis.** Sulphene and Penicillin Separately and Combined in the Treatment of. 400.  
**Streptococci in Barn Materials.** Survival of Mastitis. 330.  
**Streptomycin in Experimental Brucellosis in Guinea Pigs.** 61.  
**Streptomycin in Glanders.** 48.  
**Student Chapter Activities.** 70, 166, 487.  
**Student Enrollment for the Academic Year 1950-1951.** 486.  
**Subtilin and Bacitracin.** Mastitis Treatment with. 158.  
**Success in Veterinary Medicine at Michigan State College.** The Prediction of. 452.  
**Sulfamethazine for Caprine Enterotoxemia.** 130.  
**Sulfonamides Act.** How. 51.  
**Sulfonamides (Meramec) for Enteritis-Pneumonia Syndrome in Swine.** Mixed. 467.  
**Sulfonamide Therapy.** 26.  
**Sulphene and Penicillin Separately and Combined in the Treatment of Streptococcal Mastitis.** 400.  
**Sulphon Compounds.** 51.  
**Surgeon.** The Practitioner as a. 302.  
**Surgery and Obstetrics.** 41, 122, 198, 293, 381, 454.  
**Surgery.** "Experimental." 205.  
**Surgery. Some Uses for Gelatin in Veterinary (Slim).** 341.  
**Surgery. Special.** 161.  
**Surgery, Veterinary.** 340.  
**Surgical Relief of Impaction in the Newborn Foal.** 45.  
**Swan.** Neurolymphomatosis in a. 479.  
**Swine.** Avian Tuberculosis in. 474.  
**Swine Brucellosis Conference (Iowa).** 282.  
**Swine. Diseases of.** 481.  
**Swine. Erythrascoenosis in.** 329.  
**Swine Erysipelas Aggressive.** 241.  
**Swineherd's Disease (Leptospirosis) in Israel.** 473.  
**Swine. Icteric-Anemia in.** 335.  
**Swine. Mixed Sulfonamides (Meramec) for Enteritis-Pneumonia Syndrome in.** 467.  
**Swine. Necrosphenamine in Acute Erythrascoenosis of.** 371.  
**Swine Plague. That Now.** 48.  
**Swine. Rheumatoid Disease in.** 402.  
**Swine. Use of Antibiotics in Diseases of.** 418.  
**Swine with Pentothal Sodium.** Restraint of. 293.

## U

United States Civil Defense (A Book Review). 450.  
Used Food Bags. Studies on Sanitizing. 324.  
U.S. Government. 188, 238, 346, 435, 495.  
Uterus in a Mare. Tuna. 47.

Virus. Resistance of Avian Pneumonencephalitis Virus. 310.  
Virus Vaccines. Newcastle Disease. 431.  
Vitamin A. 58.  
Vitamin A Requirements for Turkeys. 128.  
Vitamin E<sub>2</sub> to APP. The Relation of. 423.

## V

Vaccinal Paralysis. Antibiotic. 329.  
Vaccine for Poultry. Posturall. 430.  
Vaccine. Fowl Plague. 305.  
Vaccines. Newcastle Disease Virus. 431.  
Vaccine Studied by National Brucellosis Committee. M. 53.  
Vaccination. Mucoid Brucella. 473.  
Vaccination Solid. Antibiotic. 152.  
Veterinarian. Are You a. 477.  
Veterinarian Can Do for You. Things a. 233.  
Veterinarian's Responsibility in Civil Defense. The. 333.  
Veterinarian's Responsibility to His Community. The. 91.  
Veterinarian. The World Situation and the. 237.  
Veterinary Military Service. 192, 261, 360, 445, 503.  
Vibrionic Sterility in Dairy Cows. Intruterine Antibiotic Treatment of. 388.  
Viral Infections. Antibiotics in. 459.  
Virus Cultivation. Foot-and-Mouth Disease. 62.  
Virus Disease of Long Island Ducks. New. 323.  
Viruses. The Replication of. 310.  
Virus. Pathology of the Chickens Embryo Infected with Infectious Bronchitis (An Abstract). 412.  
Virus Photographed. Newcastle Disease. 158.  
Virus Pneumoenteritis in Calves. 240.

Waxhie Fly Control. 150.  
Water for Dairy Cows. 329.  
Way of a Field Champion (Slim). 248.  
We Pass This Way. 442.  
Wheat Poisoning in Cattle. 475.  
White Scours. Preventing. 150.  
"Why Your Doctor Plays It Safe." 219.  
Women's Auxiliary. 72, 166, 249, 345, 436, 488.  
World Situation and the Veterinarian. The. 237.  
Wound Healing. Mechanical Factors in. 301.

## X

Xylocaine. 201.  
Xylocaine. New Local Anesthetic. 298.

## Z

Zoo Animals. Anesthesia for. 125

## "What's New in Veterinary Science?"

For the answer to that question, more and more practitioners are reading the **AMERICAN JOURNAL OF VETERINARY RESEARCH**.

Issued quarterly and consisting entirely of original papers, this publication singles out research developments that help solve current problems in the field.

Here, for example, are just a few of the important subjects covered in the pages of the **AMERICAN JOURNAL OF VETERINARY RESEARCH** during the past year:

★ Trichomoniasis in Reproduction	★ Swine Brucellosis
★ Diagnosis of Newcastle Disease	★ Periodic Ophthalmia
★ Chemotherapy of Coccidiosis	★ Swine Dysentery
★ Blood Transfusion in Anaplasmosis	★ Baby Pig Mortality
★ Vitamin Therapy for Calves	★ Bovine Mastitis

— plus many other research reports on disease problems.

Just fill out the coupon below and send it with your check or money order. The subscription price is only \$2.50 per year to AVMA members; \$4.00 to non-members.\*

TO: AMERICAN VETERINARY MEDICAL ASSOCIATION, 600 S. Mich., Chicago 5, Ill.

Please enter my subscription to the quarterly **AMERICAN JOURNAL OF VETERINARY RESEARCH** for one year.

(If you are an AVMA member, send check or money order for \$2.50 with this coupon. If you are not a member, send check or money order for \$4.00.)\*

Please

Print

Subscriber's Name

Street Address or Box No.

Zone

State

\*The \$4.00 non-member rate applies in the U. S., Canada, and countries affiliated with the Pan American Postal Union. Subscription rate for other countries is \$4.50.

**AT LAST!**  
for  
**RINGWORM**

a  
**POWERFUL**  
non-irritating  
**FUNGICIDE\***

**NAPRYLATE**

brand of  
**CAPRYLIC  
COMPOUND**

. . . bacteriostatic as well as fungicidal.

Doctor and owner alike welcome the convenience, speed and efficacy of Naprylate . . . today's most powerful ally in the battle against fungus infections of the skin and mixed bacterial invasion. Stainless in all forms.

Literature supplied with your order upon request.



Keesey, E. L. and associates.  
Bull. Johns Hopkins Hospital  
77:422, 1945

**NAPRYLATE liquid . . .**

. . . convenient for penetration on hairy surfaces.

Sodium Caprylate	20%	
2 oz.	Pints	Gallons

**NAPRYLATE ointment . . .**

. . . non-greasy, water miscible base.

Sodium Caprylate	10%
Zinc Caprylate	5%
3/4 oz. Tubes	1 lb. Jars

**NAPRYLATE powder . . .**

. . . for drying up "weepy" areas and for prophylaxis.

Sodium Caprylate	10%
Zinc Caprylate	5%

2 oz. Sifter Top Cans
18 oz. Sifter Top Cans

**STRASENBURGH**

Pioneering in Veterinary Pharmaceuticals Since 1886  
ROCHESTER, N. Y.

## An' Related Topics

### WATCH YOUR ENGLISH AND OURS

#### Plurals (Continued)

Though regulated by grammatical rules duly set down for guidance, the forming of the English plural, like English orthography, is learned to a considerable extent by sight and sound, much as the player runs off music on his flute. One does not blunder into *foots, mouses, gooses* instead of *feet, mice, geese*, but we've learned the correct words without knowing or caring about any governing rule. *Mice* is the plural of *mouse* but *hice* is not the plural of *house*. Since *geese* is the plural of *goose*, why isn't *meese* the plural of *moose*? Though we must write *oxen, children, brethren* we can't follow through with *sheepen, hoges, goaten, elken*, etc., euphonious as all such plurals would be.

Of more particular interest in veterinary writing is whether to use *s* or *es* to form the plurals of *embryo, ratio, hero, buffalo, potato*, not to mention the plurals formed with *s* or *x*—*bureaus or bureaux, beaus or beaux, tableaus or tableaux*. Also to be given attention are the singular nouns ending in *x*, such as *apex, index, cortex, cervix*, which form their plurals with either *ices*, as in *cortices*, or by adding *es*, as in *indexes*. (In some of the singular nouns ending in *x*, the forming of plurals is a matter of choice, the *ices* and *es* endings both being correct.)

The singular nouns ending in *a, um, us* are pitfalls, as too many writers form their plurals without regard for Latin spellings, which are not the same in all of the cases.

Modern medical publishers have discarded a large number of Latin, Greek, and Hebrew forms of plurals. The English *s* and *es* are replacing *ae, es, arum, as, orum, os, ta, i, im*, etc., of the basic languages. On that account, stylists have the obligation of indicating the approved changes.

The following plurals, in obedience to current usage, are among those used in the AVMA JOURNALS:

#### COMING MEETINGS

Notices of Coming Meetings must be received by 4th of month preceding date of issue

American College of Veterinary Pathologists. Seminars on teaching methods for veterinary pathology and on histopathology. Nov. 24-25, 1950 (location to be announced later). Major T. Carl Jones, Casual Off. Co., Personnel Center, Fort Dix, N.J.

American Society of Animal Production. Annual meeting. Hotel Sherman, Chicago, Ill., Nov. 24-25, 1950. H. M. Briggs, Oklahoma A. & M. College, Stillwater, Okla., secretary.

Nebraska State Veterinary Medical Association. Annual meeting. Hotel Cornhusker, Lincoln, Neb., Dec. 5-7, 1950. Ordella Geisler, 919 L Street, Lincoln, Neb., secretary.

Maryland State Veterinary Medical Association. Winter meeting. Emmerson Hotel, Baltimore, Md., Dec. 7-8, 1950. John D. Gadd, Towson 4, Md., secretary.

Delaware Veterinary Medical Association. Annual meeting, The Paddock, Smyrna, Del., Dec. 15, 1950. Ernest L. Symington, 85 West Park Place, Newark, Del., secretary.

American Association for the Advancement of Science. Annual meeting. Cleveland, Ohio, Dec. 26-30, 1950. Raymond L. Taylor, 1515 Massachusetts Ave., N. W., Washington 5, D. C., assist. admin. secretary.

Pennsylvania, University of. Annual conference for veterinarians, Jan. 2-3, 1951. R. A. Kelsler, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa., dean.

New York State Veterinary College. Annual conference for veterinarians. Cornell University, Ithaca, N. Y., Jan. 3-5, 1951. W. A. Hagan, dean.

Ohio State Veterinary Medical Association. Annual meeting. Deshler-Wallick Hotel, Columbus, Ohio, Jan. 3-5, 1951. Fred J. Kingma, 121 E. Weber Rd., Columbus 2, Ohio, secretary.

Oklahoma Veterinary Medical Association. Annual meeting. Skirvin Hotel, Oklahoma City, Okla., Jan. 8-9, 1951. Lewis H. Moe, 1736 W. 3rd Ave., Stillwater, Okla., secretary.

(Continued on p. 22)

(Continued on p. 24)

# an improved water-in-oil emulsion with both sodium sulfathiazole and sodium sulfamerazine

In the year that MERASUL has been produced it has become our most popular water-in-oil emulsion. It has proved its efficacy in the treatment of bovine mastitis, its ease of mixing with desired amounts of penicillin and streptomycin, and its marked economy. We recommend MERASUL highly to you.

12—100 cc. vials.....	\$12.75
6—250 cc. vials.....	12.75
12—250 cc. vials.....	24.75



SINCE 1888  
as trustworthy  
as time itself

SYRACUSE  
PHARMACAL COMPANY, INC.

211-215 WOLF STREET, SYRACUSE 8, N. Y.

Distributed by H. C. Burns Co., Inc., Oakland, Calif. and Portland, Ore.  
Fox Drug Co., Cartage, N.Y. • Richmond Veterinary Supply Co., Richmond, Va.

• Jack Webster, Wakefield, Mass.



acini	corpora	keratitides	retinas	speculums	toxemias
alveoli	craniums	lacunas	rumens	spirilla	tracheas
anemias	criteria	larynges	sacculi	sternums	traumas
annuli	crura	lumens	scapulas	stigmata	tympaenums
aortas	emboli	mammæ	scotomata	stomata	ulnas
apexes	enemas	meatuses	scrotums	strata	umbilici
aquæ	enteritides	mediums*	septums	striae	uteri
axes	epididymides	menses	sequels**	sucli	uveas
bacteria	esophagi	minimums	sequestrums	tenias	vertebrae
bronchi	femurs	nephritis	serums	thrombi	
calculi	fetuses	nidi			
cannulas	fibulas	nuclei			
capita	foci	olei			
carcinomas	foramens	ora (sing., os)			
cecum	fraena	ossa (sing., os)			
centrums	ganglia	patellas			
cerci	genera	penes			
cervices	genua	pharynges			
chartas	gingivæ	plexuses			
cilia	guttae	pollices			
circuli	gyri	(thumbs)			
cocci	hematomas	pudenda			
cochleas	herrias	radius			
coni	humeri	rami			
conjunctivas	indexes	ratios			
corneas	inoculum	reticulums			

\*Mediums is the plural now generally used in designating culture material. Media is not changed in referring to the transparent structures of the eye nor for naming the middle coat of arteries.

\*\*The plural form of sequel seems to be badly misunderstood in veterinary writings. The mistake generally made is writing sequela as the plural of the English sequel. Sequela is a Latin singular. Its plural is sequales.

(To be continued)

## WHITE'S

### ANIMAL CASTRATION

A new text-book for TEACHERS, STUDENTS and PRACTITIONERS.

Price \$7.50

For sale by book dealers, also by the Author, George R. White, P. O. Box 901, Nashville, Tennessee.

### PERANDREN®... A VIRILE ANDROGEN

The male hormone has the capacity of causing retention of nitrogen, so necessary for tissue repair and restoration. Use PERANDREN for virility and muscular tone. Clients are greatly pleased whenever loss of breeding opportunities can be arrested and additional services had from prized breeding animals. Use PERANDREN in the impotent male animal.

PERANDREN, a virile androgen, is indicated in:

- Debilitated animals
- Testicular deficiency

- Impotence due to endocrine imbalance

- Senile infirmity

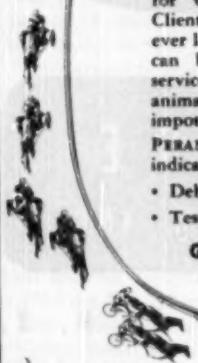
- Hypogonadism in young animals

PERANDREN is available in vials of 10 cc. in the following strength solutions:

5 mg. per cc. ....	\$1.00 per vial
10 mg. per cc. ....	1.60 per vial
25 mg. per cc. ....	2.60 per vial
50 mg. per cc. ....	5.20 per vial

PERANDREN, a product of Ciba Pharmaceutical Products, Inc. is distributed to the Veterinary Profession through:

GOSHEN LABORATORIES, INC., GOSHEN, NEW YORK



GOSHEN Leads



# The PARD "4-STAR" STORY



New findings show how right you've been in recommending PARD

Since PARD came on the market in 1932, Swift has consistently made it the *best dog food that science knows how to make*. No other manufacturer has devoted such facilities, time, and technical personnel to that end.

As a result PARD has traditionally been a standard of comparison for the industry. Today many dog foods claim to be, like PARD, a *complete* food . . . a *balanced* food. They advertise "extra ingredients" which, they say, make their food more nourishing.

It is a question of importance for all concerned with the care and feeding of dogs whether these other foods actually equal PARD. Swift believes that discoverable facts should be presented. Do other dog foods widely sold today meet the standards set by PARD? Can they give the dog—through every stage of life, in lactation and reproduction—all the nutrition, in proper balance, that he needs for optimum health and vigor?



*The only 4-STAR  
dog food of all the  
leading canned brands*



The "4-STAR" story suggests an answer in quantitative terms.

It is evidence that in the four categories of nutrients—Vitamins, Minerals, Protein, Calories—PARD is the only one of the 5 largest-selling canned dog foods that *has an optimum score in all!* It shows also that PARD is unique with no surplus of one food factor at the expense of another.

Swift & Company submits that the "4-Star" comparison is factual proof that PARD is now, as it has been from the beginning, the *best dog food that science knows how to make*.



The scores in the table are based on actual amounts. The food scoring highest in a nutrient was given 10. A star indicates adequacy for perfect nutrition, according to standards established after years of research by Swift scientists and proven beyond doubt by feeding tests on generations of dogs.

This study does not reveal differences in *quality* of nutrients which, if demonstrated, would be still more favorable to PARD.

The comparison below is based on an analysis of the five largest-selling canned dog foods. The determinations were conducted for Swift by the Laboratory of Vitamin Technology, an independent laboratory.

	Protein	Vitamins	Calories	Minerals	Score
PARD	9.5*	10.0*	8.8*	10.0*	★★★★
Dog Food A	8.3	6.5	9.0*	7.3	★
Dog Food B	9.6*	6.9	10.0*	5.2	★★
Dog Food C	10.0*	8.7	8.8*	4.5	★★
Dog Food D	8.7	6.0	8.8*	5.1	★

# GrainBelt

ANTI-HOG CHOLERA SERUM  
HOG CHOLERA VIRUS

Produced for the exclusive use of the Graduate Licensed Veterinarians.



Professional standards demand products that are of the highest quality. Our entire facilities are directed towards this one objective — preparing and manufacturing quality products for the profession.

## GRAIN BELT SUPPLY COMPANY

4901 SO. 33RD STREET  
OMAHA, NEBRASKA

Member Associated Serum Producers, Inc.

(COMING MEETINGS — continued from p. 20)

Maine Veterinary Medical Association. Annual meeting. Pittsfield, Maine, Jan. 10, 1951. S. D. Merrill, Augusta, Maine, secretary.

Indiana Veterinary Medical Association. Annual meeting. Hotel Severin, Indianapolis, Ind., Jan. 10-12, 1951. W. W. Garverick, Zionsville, Ind., secretary.

Ontario Veterinary Association. Annual convention. Royal York Hotel, Toronto, Ont., Jan. 10-12, 1951. T. Lloyd Jones, Ontario Veterinary College, Guelph, Ont., resident secretary.

Wisconsin Veterinary Medical Association. Winter meeting. Schroeder Hotel, Milwaukee, Wis., Jan. 10-11, 1951. B. A. Beach, Genetics Building, University of Wisconsin, Madison, Wis., secretary.

Tennessee Veterinary Medical Association. Annual meeting. Maxwell House Hotel, Nashville, Tenn., Jan. 15-16, 1951. H. W. Nance, 417 N. Military St., Lawrenceburg, Tenn., secretary.

Iowa Veterinary Medical Association. Annual meeting. Hotel Fort Des Moines, Des Moines, Iowa, Jan. 17-19, 1951. F. B. Young, P.O. Box 6, Waukee, Iowa, secretary.

Kansas State Veterinary Medical Association. Annual meeting. Allis Hotel, Wichita, Kan., Jan. 17-19, 1951. Olin W. Morris, 204 N. 32nd St., Parsons, Kan., secretary.

Intermountain Veterinary Medical Association. Annual meeting. Newhouse Hotel, Salt Lake City, Utah, Jan. 18-20, 1951. M. L. Miner, Logan, Utah, secretary.

Mississippi Veterinary Medical Association. Annual meeting. Edwards Hotel, Jackson, Miss., Jan. 19-20, 1951. John A. Randle, West Point, Miss., secretary.

California State Veterinary Medical Association. Annual mid-winter conference. University of California's School of Veterinary Medicine, Davis, Calif., Jan. 22-24, 1951. Mr. Charles S. Travers, 3004 16th St., room 208, San Francisco, Calif., secretary.

Louisiana Veterinary Medical Association. Annual conference. Louisiana State University, Baton Rouge, La., Jan. 23-24, 1951. R. B. Lank, Louisiana State University, Baton Rouge 3, La., secretary.

North Carolina State College of Agriculture and Engineering of the University of North Carolina. Annual conference for veterinarians. Jan. 23-26, 1951. C. D. Grinnells, chairman, North Carolina Veterinary Conference, Raleigh, N. Car.

(Continued on p. 26)

Here's  
**ONE**  
Dog Food  
That  
Actually  
Contains..



**Lean,  
Red Cuts**

**OF U. S. GOVT. INSPECTED  
HORSE MEAT**

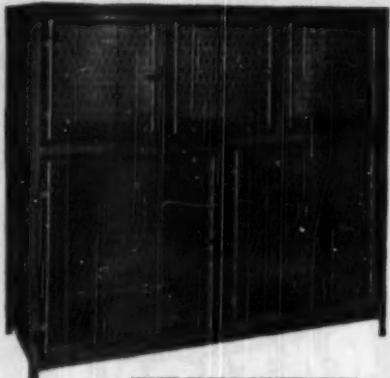
Including Roasts . . . Steaks and Chops . . .  
Fortified with All-Known "Dog-Health Vitamins"  
Plus Vital Minerals

**KEN-L-RATION**

THE QUAKER OATS COMPANY — KEN-L-PRODUCTS DIVISION Chicago, Illinois

"Water-Proof"

## 5 COMPARTMENT STALLS \$169.90



WATER-PROOF CONSTRUCTION  
HEAVILY GALVANIZED SHEETS  
NO EXTRA CHARGE!

Bottoms are water-proof trays with  $\frac{1}{4}$ " turned up edges, heavily soldered together. Breed, aluminum painted,  $1\frac{1}{2}$ " angle iron frames. Door frames  $1\frac{1}{2}$ " O. D. Pipe. Dog proof mesh floor welded to frame. All sheets heavily galvanized.

Completely Assembled. Satisfaction Guaranteed.  
SIZES: 3 upper stalls  $24'' \times 24'' \times 28''$  deep.  
2 lower stalls  $36'' \times 36'' \times 28''$  deep.  
Overall size: 6' wide  $\times 5\frac{1}{2}'$  high  $\times 28\frac{1}{2}''$  deep.  
Stalls stand 6 in. off floor.



### KENNEL RUNS

The low cost will surprise you!

Ford DOUBLE FRAME Panel Runs insure SAFETY for your dogs. Chain link fabric is rust resistant, cannot be spread; permanently locked by INNER BAR FRAME. NO TIE WIRES TO RUST. Clamp together. No bolt holes to match. Portable or permanent construction.

Made in sizes to fit your requirements.  
4', 5', and 6 ft. heights. Lengths 2 to  
14 ft. panels.

WRITE FOR LITERATURE AND PRICES

Kennel Runs — Pup Pens — Stalls and Cages  
Ornamental and Miscellaneous Iron.

**FORD FENCE CO., Inc.**

6572 Winthrop Avenue  
INDIANAPOLIS 20, INDIANA

(COMING MEETINGS -- continued from p. 24)

Massachusetts Veterinary Association. Monthly meeting. Hotel Beaconsfield, Brookline, Mass., Jan. 24, 1951. C. Lawrence Blakely, 180 Longwood Ave., Boston 15, Mass., secretary.

Michigan State College. Annual postgraduate conference for veterinarians. School of Veterinary Medicine, Michigan State College, East Lansing, Mich., Jan. 24-25, 1951. C. S. Bryan, dean.

Virginia State Veterinary Medical Association. Winter meeting. Hotel Roanoke, Roanoke, Va., Jan. 29-31, 1951. Harry K. Royer, 1404 Main Street, Lynchburg, Va., secretary.

Illinois State Veterinary Medical Association. Annual meeting. Hotel Sherman, Chicago, Ill., Jan. 30-Feb. 1, 1951. A. G. Misener, 6448 North Clark St., Chicago 26, Ill., secretary.

Minnesota State Veterinary Medical Society. Annual meeting. Hotel Nicollet, Minneapolis, Minn., Jan. 31-Feb. 2, 1951. B. S. Pomeroy, School of Veterinary Medicine, University of Minnesota, St. Paul 1, Minn., secretary.

New Jersey, The Veterinary Medical Association. Annual meeting. Hotel Hildebrandt, Trenton, N.J., Feb. 8-9, 1951. J. R. Porteus, P.O. Box 938, Trenton, N.J., secretary.

American Animal Hospital Association. Annual meeting. Chalfonte-Haddon Hall, Atlantic City, N.J., May 2-5, 1951. Wayne Riser, 5335 Touhy Ave., Skokie, Ill., secretary.

American Society for the Study of Sterility. The Annual meeting. Ritz-Carlton Hotel, Atlantic City, N.J., June 8-10, 1951. Walter W. Williams, 20 Magnolia Terrace, Springfield 8, Mass., secretary.

North Carolina State Veterinary Medical Association. Annual meeting. Hendersonville, N. Car., June 8-9, 1951. J. H. Brown, Tarboro, N. Car., secretary.

American Veterinary Medical Association. Annual meeting. Milwaukee Auditorium, Milwaukee, Wis., Aug. 20-23, 1951. J. G. Hardenbergh, American Veterinary Medical Association, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.

(Continued on p. 28)

 Send for FREE 36-page Treatise on  
**CARROT OIL VITAMINS**

Details the advantages of carrot oil vitamins when used in feeds to improve breeding results; to destroy oxidized milk flavors; and to promote general good health and glossy coats. Contains much information. Replete with data and references. Send for it today.

NUTRITIONAL RESEARCH ASSOCIATES  
Dept. 251-N, South Whitley, Indiana

# No other Dry Dog Food has this Professional O.K.



**THE OFFICIAL SEAL** of the American Veterinary Medical and Animal Hospital Associations has been awarded Gro-Pup—as a *complete food*. This means that from weaning to maturity, including gestation and lactation periods, Gro-Pup, alone, provides *every food element* dogs are known to need.

**NOW GRO-PUP COMES IN MEAL FORM** as well as popular Ribbon. New Gro-Pup Meal is *flaked* to mix *faster* than any other food of this type. Same complete formula. Meat scraps, gravy, or milk may be added—but are not at all necessary. Feed both Ribbon and Meal

Kellogg's Gro-Pup Ribbon and Gro-Pup Meal have been awarded the A.V.M.A. and A.A.H.A. seal of approval as complete foods!

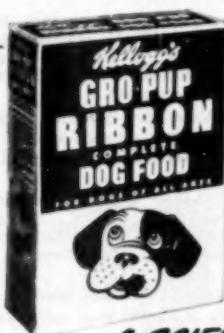
for variety. You save up to 40%—and more—over most canned dog foods.

#### GUARANTEED ANALYSIS

Protein (Minimum)	25.0%
Fat (Minimum)	5.0%
Carbohydrates (Minimum)	50.0%
Crude Fiber (Maximum)	4.0%
Moisture (Maximum)	8.0%
Ash (Maximum)	9.0%

#### VITAMIN POTENCIES PER POUND

Vitamin A	3500 I.U.
Vitamin D	1725 I.U.
Thiamine	1.0 mg.
Riboflavin	2.5 mgs.
Niacinamide	27.5 mgs.



Ribbon  
in 25 oz.  
box

WRITE FOR  
**FREE**  
TRIAL PACKAGE

A SCIENTIFIC *Kellogg* PRODUCT



Meal in 5  
and 25  
lb. bags

**Regularly Scheduled Meetings**

**Bay Counties Veterinary Medical Association**, the second Tuesday of each month. Russell P. Cope, 1205 San Pablo Ave., Berkeley 6, Calif., secretary.

**Central California Veterinary Medical Association**, the fourth Tuesday of each month. Thomas Eville, Route 1, Box 136H, Fresno, Calif., secretary.

**Chicago Veterinary Medical Association**, the second Tuesday of each month. Robert C. Glover, 1021 Davis St., Evanston, Ill., secretary.

**East Bay Veterinary Medical Association**, bi-monthly, the fourth Wednesday. O. A. Soave, 5666 Telegraph, Oakland, Calif., secretary.

**Fayette County Veterinary Association**, Iowa, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

**Greater St. Louis Veterinary Medical Association**. Ralston-Purina Research Building, St. Louis, Mo., the first Friday in February, April, June, and November. W. C. Schofield, Dept. of Animal Pathology, Ralston-Purina Co., St. Louis 2, Mo., secretary.

**Houston Veterinary Medical Association**, Houston, Texas, the first Thursday of each month. Ed-

ward Lepon, Houston, Texas, secretary-treasurer.

**Illinois Valley Veterinary Medical Association**, the second Wednesday of even-numbered months. R. A. Case, 400 S. Garden St., Peoria, Ill., secretary.

**Indiana Tenth District Veterinary Medical Association**, third Thursday of each month. L. A. Snider, New Palestine, Ind., secretary.

**Jefferson County Veterinary Society of Kentucky, Inc.**, the first Wednesday evening of each month, in Louisville or within a radius of 50 miles. F. M. Kearns, 3622 Frankfort Ave., Louisville 7, Ky., secretary.

**Kansas City Veterinary Medical Association**, the third Tuesday of each month, in the Hotel Continental, 11th and Baltimore, Kansas City, Mo. K. M. Curta, 70 Central Ave., Kansas City 18, Kan., secretary.

**Keystone Veterinary Medical Association**, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa., the fourth Wednesday of each month, October through May. Leonard Krawitz, 5300 Lancaster Ave., Philadelphia 31, Pa., secretary.

**Marijuana County Veterinary Association**, the second Tuesday of each month. Charles J. Prchal, 1722 East Almeria Road, Phoenix, Ariz., secretary.

**Massachusetts Veterinary Association**. Hotel Statler, Boston, Mass., the fourth Wednesday of each month. C. L. Blakely, Angell Memorial Animal Hospital, 180 Longwood Ave., Boston, Mass., secretary-treasurer.

**Michigan Veterinary Medical Association**, the second Thursday of each month. Write R. W. Worley, secretary, 3224 L.W.W., South Bend, Ind., for location.

**Michigan, Southeastern Veterinary Medical Society**. Herman Kiefer Hospital, Detroit, Mich., the second Wednesday of each month from October through May.

**Milwaukee Veterinary Medical Association**. Wisconsin Humane Society, 4150 N. Humboldt Ave., Milwaukee, Wis., the third Tuesday of each month. Kenneth G. Nicholson, 2161 N. Farwell Ave., Milwaukee, Wis., secretary.

**Monterey Bay Area Veterinary Medical Association**, the third Wednesday of each month. C. Edward Taylor, 2146 South Broad St., San Luis Obispo, Calif., secretary.

**New York City Veterinary Medical Association**. Hotel Statler, New York, N. Y., the first Wednesday of each month. C. R. Schroeder, Lederle Laboratories, Inc., Pearl River, N. Y., secretary.

**North San Joaquin Valley Veterinary Medical Association**, the fourth Wednesday of each month. V. E. Graff, Oakdale, Calif., secretary.



*K/D*  
*A diet for  
dogs*

Sold only to  
Graduate  
Veterinarians

Promises longer life span when fed to older dogs whose condition indicates impaired kidney function

Write for free copies of Prescription Bulletins No.'s 1 and 2

**HILL PACKING CO.**

Prescription Department

P.O. Box 148 Topeka, Kans.

(Continued on p. 30)

MORE FOOD for all...  
MORE PROFIT for  
the farmer...  
It's your problem and ours...



## Let's Get More Hogs to Market Faster

Your professional services help your clients keep healthy hogs. Purina Chows help farmers grow market-topping hogs fast.

For instance, in the hog lots of many good Purina feeders, healthy hogs are going to market at  $5\frac{1}{2}$  months weighing 200-225 pounds. These hogs are producing  $\frac{1}{3}$

more pork than hogs on a single-source protein supplement, and are going to market  $\frac{1}{3}$  faster.

Working together, we can help the farmer get *more* hogs to market *faster*. This kind of hog production makes better clients for you and better customers for Purina.

RALSTON PURINA COMPANY

St. Louis 2, Missouri

WORKING TOGETHER FOR A PROSPEROUS AGRICULTURE



**Relieves Pain . . .**  
**Reduces Congestion**

— in sprains, muscle and tendon injuries, joint involvements.

## NUMOTIZINE

Medicated Emplastrum

*Exceptionally convenient — Numotizine is easily applied; one application lasts 8 hours or more.*

Supplied in 30 ounce and 3½ lb. resealable glass jars.

## NUMOTIZINE, INC.,

900 N. Franklin Street, Chicago 10, Illinois

One sometimes wonders whether parasitized animals eat their feed only to exercise their jaws.—R. D. Turk, D.V.M., Texas.



**CUT YOUR  
DISINFECTING  
COSTS IN  
HALF!**

A safe white powder — gives full strength disinfectant solutions at less than 2 cents per gallon! Moreover, KORE saves labor because at the same time it cleans brilliantly and absorbs all odors!

Easily used with mop, swab or spray. KORE is ideal for surgical equipment and instruments, cages, runways, floors and all other animal-occupied areas. KORE is available from dealers throughout the U. S. and carries a money-back unconditional guarantee.

**WRITE FOR FREE BULLETIN!**

KING RESEARCH INC. 124 57 ST. BROOKLYN 20, N.Y.

(COMING MEETINGS — *continued from p. 28*)

Orange Belt Veterinary Medical Association, the second Monday of each month. James R. Ketchersid, 666 East Highland Avenue, San Bernardino, Calif., secretary.

Orange County Veterinary Medical Association, bimonthly, the second Tuesday of each month. J. H. Bower, P. O. Box 355, Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. E. W. Paul, Box 866, Redwood City, Calif., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. John E. Wion, 3164 Redwood Highway South, Santa Rosa, Calif.

Roanoke-Tar (N. Car.) Veterinary Medical Association, the first Friday of each month, 7:00 p.m., in Rocky Mount. G. L. Gilchrist, Edenton, N. Car., secretary.

Sacramento Valley Veterinary Medical Association, the fourth Friday of each month. R. C. Goulding, 11511 Capitol Avenue, Sacramento, Calif., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. R. J. McFarland, 3621 Jewell St., San Diego 9, Calif., secretary.

Southern California Veterinary Medical Association, the third Wednesday of each month. D. H. McDole, 8674 Melrose Ave., Los Angeles 46, secretary.

South Florida Veterinary Society, the third Tuesday of each month, 8:00 p.m., at the Peckway Skeet Club, Robert P. Knowles, 2936 N.W. 17th Ave., Miami, Fla., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month, 8:00 p.m., at the Tulsa Hotel. R. S. Todd, 1222 S. Lewis, Tulsa, Okla., secretary.

### Foreign Meetings

First Pan-American Veterinary Conference. Lima, Peru, May 20-26 (tentative), 1951. José Santaveras, dean, Veterinary College, San Marcos University, Lima, Peru.

*Family Doctor Remains.*—Nearly two out of three physicians in private practice in this country are family doctors, according to Frank V. Cargill, editor of the *American Medical Directory*.

To rejoice in your work and the love of your friends is an open road to the Land of Happiness. As Victor Hugo wrote: "Pity him who does not enjoy his daily task."



## *Effective treatment of tapeworm infestation*

Supplied in tablets of 18 mg., bottles of 100 and 500. (Each tablet contains 3.13 mg. arsenic.)

Literature and detailed information supplied on request.

Vermifugal and purgative in action, NEMURAL is particularly effective in dogs and adult cats. Moreover, it acts quickly.

May be administered without a preliminary starvation. Administration usually not followed by emesis. Definite dosage: One 18 mg. tablet for each 8 lbs. of body weight.



# N E M U R A L

Brand of DROCARBIL

*Winthrop-Stearns INC.*  
NEW YORK 13, N. Y. WINDSOR, ONT.

NEMURAL, trademark  
reg. U. S. & Canada.

## NEW HI-CURRENT ELECTRIC FIRING IRON

NOW adapted for Surgery and Cautery use for the VETERINARIAN in general practice.



- Uniform Constant Heat
- Three Position Heat Selector
- Non-Corrosive Steel Alloy Points

- Quiet — Clean
- Safe — Quick
- Mechanically Reliable
- All Electric
- Compact — Self-Contained

**NICHOLSON MANUFACTURING, Inc.**  
2811 E. 3rd Avenue, Denver 6, Colo.



The treatment of choice in  
Shipping fever — Pneumonic  
Necrophorous Infections

Sulfamerazine — Sulfapyridine — Sulfathiazole  
15% total sulfa (2 gr./cc.)

Covers extremely wide range of infections

250cc. .... \$1.65	6-250cc. .... \$ 9.00
500cc. .... 3.00	6-500cc. .... 16.80

Have a supply on hand

## CURTS-FOLSE LABORATORIES

Select Pharmaceuticals for the  
Veterinary Profession since 1918

73 Central Avenue Kansas City, Kansas

## CLASSIFIED ADVERTISEMENTS

Twenty-five words or less, \$2.50; 8 cents for each additional word. Replies sent in care of the Journal, 25 cents extra.

Remittance must accompany order.

Deadline for want ads 8th of month preceding date of issue.

Names of classified advertisers using key letters cannot be supplied. Address your reply to the key letters, c/o JOURNAL of the AVMA, 600 So. Michigan Ave., Chicago 5, Ill., and it will be transmitted to the advertiser.

### Wanted—Veterinarians

WANTED—veterinarian and assistant for mixed practice in west Kentucky, with commission and future for right man. Give references and experience in first letter. Address Dr. W. M. Coffee, Coffee Animal Clinic, La Center, Ky.

Traveling salesman wanted for prescription diets prescribed and handled exclusively by veterinarians throughout the United States. Man with experience calling on veterinarians preferred. Address Hill Packing Company, 108 Kansas Ave., Topeka, Kan.

WANTED—associate veterinarian for predominantly large animal practice. Modern home completely furnished and car. Long hours and hard work, but opportunity for advancement and eventually take over the practice. Northern Illinois. Address "Box B 6," c/o JOURNAL of the AVMA.

Recent, gentle graduate wanted to join staff of southern California animal hospital. Much opportunity for case treatment and assisting in large surgical practice. Salary and apartment. A possibility of permanent arrangements dependent on ability of applicant. Address "Box B 9," c/o JOURNAL of the AVMA.

Veterinarian wanted as assistant in small animal practice, New York State license preferred. Starting salary about \$5,000 a year, with partnership in view for the right man. State qualifications, age, and experience in first letter. Address "Box B 10," c/o JOURNAL of the AVMA.

WANTED—woman or draft-exempt male veterinarian to take over professional duties of a large small animal hospital in Illinois while owner is in service. Possibility of staying on as associate after war is dependent upon wishes of person hired. State experience, school, and year of graduation. Address "Box B 23," c/o JOURNAL of the AVMA.

VETERINARIAN WANTED—as assistant in small animal practice in Chicago. Give experience, age, references, marital and draft status, school of graduation, and religion. Five-room apartment available. Address "Box B 21," c/o JOURNAL of the AVMA.

BIOLOGICAL PRODUCTION—Young graduate veterinarian interested in a commercial career in bio-

(Continued on p. 34)

# CONTROL CALF SCOURS!

VETERINARY

# SULFATHALIDINE®

phthalylsulfathiazole

Just one dose daily of SULFATHALIDINE® phthalylsulfathiazole is remarkably effective in curtailing losses from calf scours and other enteric infections.

Given orally, SULFATHALIDINE is nontoxic, since less than 5% is absorbed and over 95% of its antibacterial action is in the intestinal tract. Thus, administration of SULFATHALIDINE results in smaller dosage, more economical treatment.

**SUPPLIED:**

No. 2264—4.0-Gm. (60-gr.) tablets (slotted), bottles of 100 and 500.

No. 2261—0.5-Gm. (7.7-gr.) tablets (slotted), bottles of 100 and 1,000.

No. 2267—½-lb. and 1-lb. bottles of powder.

# 'BOVIMIDE'

TRIPLE  
SULFONAMIDE  
SUSPENSION  
WITH KAOLIN

Given orally, 'BOVIMIDE', new triple sulfonamide suspension, is equally effective in treatment of calf scours, or when used prophylactically in herds where the disease is endemic. It provides the bacteriostatic action of SULFATHALIDINE, sulfamerazine and sulfamethazine, plus protective, adsorbent kaolin. **Supplied:** No. 2357—Bottles of 16 fluid-ounces.

Each 100 cc. of 'BOVIMIDE' contains:

SULFATHALIDINE®	
phthalylsulfathiazole . . .	6.8 Gm.
Sulfamerazine . . . . .	0.6 Gm.
Sulfamethazine . . . . .	0.6 Gm.
Kaolin . . . . .	10.0 Gm.
Alcohol . . . . .	5 %

VETERINARY DIVISION

& SHARP  
DOHME

PHILADELPHIA 1, PA.

BRANCHES: Atlanta, Baltimore, New York, Philadelphia, Denver, Memphis, Los Angeles, Columbus, Boston, Chicago, Kansas City, San Francisco, Portland, Dallas, St. Louis, New Orleans, Minneapolis.



# use Armour anti-hog cholera serum and hog cholera virus!

*For Dependability of product  
Dependability of supply*

*Sold to  
graduate  
Veterinarians only*



Veterinary Laboratories  
KAW Station, Kansas City 18, Kansas

(CLASSIFIED ADS — *continued from p. 32*)

logical production, control, and research will have excellent opportunity for advancement with this leading ethical veterinary house in the Midwest. Interest in bacteriology essential and man must have capacity for supervising people. Write, giving qualifications and salary expected. Enclose photograph or snapshot. Address "Box B 19," c/o JOURNAL of the AVMA.

**VETERINARIAN WANTED**—to assume mixed practice in New York State, with future partnership desired. Lease or sell combination hospital and apartment. Owner drafted. Address "Box B 20," c/o JOURNAL of the AVMA.

**WANTED**—veterinarian, New York license, to take full charge of small animal hospital. Good future. Address Dr. S. Shapera, Mamaroneck, N.Y.

**WANTED**—veterinarian as assistant in modern small animal hospital, suburb of New York City. Permanent. Excellent working conditions and salary. Rapid advancement. Single man preferred. Give particulars. Address "Box B 24," c/o JOURNAL of the AVMA.

#### Wanted—Practices

**PRACTICE WANTED**—by graduate of AVMA-approved school, with six years of practice experience. Christian. Large animal practice and Midwest location preferred. Address "Box B 4," c/o JOURNAL of the AVMA.

Responsible, experienced veterinarian wishes to purchase a general practice in the state of Virginia. Please give full particulars in first letter. Address "Box B 12," c/o JOURNAL of the AVMA.

Small animal practice wanted, in exclusive community, large enough for two or three men, preferably within 30-mile radius of New York City, but will consider other locations. Must include large, modern, well-equipped hospital. Would consider partnership in practice as described above. Please give details in first letter. Address "Box B 13," c/o JOURNAL of the AVMA.

**WANTED PRACTICE**—experienced graduate of AVMA-approved school desires to purchase or lease small animal practice in New York. Address "Box B 16," c/o JOURNAL of the AVMA.

**WANTED PRACTICE**—Experienced veterinarian wishes to buy thriving large or mixed animal practice in Midwest. Would prefer to buy from veterinarian wishing to retire. Address "Box B 15," c/o JOURNAL of the AVMA.

#### Wanted—Positions

Veterinarian desires position as assistant, laboratory worker, or meat inspector. Graduate of a veterinary academy in Hannover, Germany. Address Dr. John Glaudelis, 182 Sumpter St., Brooklyn 33, N.Y.

*(Continued on p. 36)*



Its use will prevent or greatly decrease,  
the incidence and severity of  
*Epileptiform Convulsions* and  
allied conditions in dogs, without  
the hypnotic and narcotizing  
effects of many anticonvulsant drugs.

DESCRIPTIVE LITERATURE AVAILABLE ON REQUEST

Department of Veterinary Medicine

**PARKER, DAVIS & CO.**  
DETROIT 32, MICHIGAN



# "This is the first time I ever liked listening to Crosby!" says HOPE

## HOPE:

I've always stuck cotton in my ears when the Old Groaner opened his mouth. But now he sounds good. Let's listen!

## CROSBY:

Ladies and gentlemen, this isn't a song. It's just a suggestion. This year, let's all give U. S. Savings Bonds for Christmas presents. They make wonderful gifts. Tell 'em about those bonds, Chisel Nose.

## HOPE:

Gladly. It's all very simple—even Crosby understands how they work. In just ten years, they pay \$4 for every \$3 they cost. And they're appropriate for everybody on your Christmas list. Am I right, Bing?

## CROSBY:

For once in his life the old Scene-Stealer *is* right. But seriously, folks, nothing makes a more welcome, more sensible present than U. S. Savings Bonds. So—

## HOPE:

So why not give the very finest gift in America—U. S. Savings Bonds!

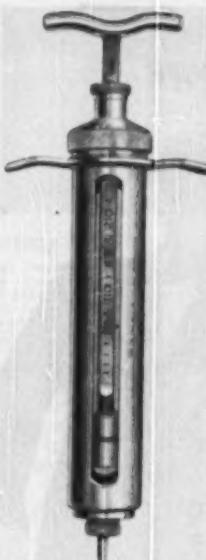


## Give the finest gift of all... U.S. Savings Bonds



Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

## Ranch Record Veterinary Syringe



Superior quality veterinary syringes—Choice of ground glass barrel with metal plunger or rubber packing—Accurate dosage and smooth operation always assured.

Inexpensive replacement parts available.

Inquire at your nearest veterinary dealer or wholesaler concerning this outstanding product.

Sizes 2 cc. to 40 cc.

## Boston Record Syringes

High quality syringe consisting of graduated, ground, resistance glass barrel with nickel silver plunger and strongly constructed metal parts. No Washers—No Binding Rubber Packings to interfere with smooth operation. Easily disassembled for sterilization.

Low in Cost

Boston Record Syringes create sales for the dealer and satisfaction for the user.

Repair exchanges available.

Sizes 1 cc. to 150 cc.

Literature Upon Request

**Boston Instrument Mfg. Co., Inc.**

**50 Thayer St., Boston 18, Mass.**



(CLASSIFIED ADS — continued from p. 36)

sale. Address Dr. E. E. Nisbett, 3023 West End Ave., Nashville 5, Tenn.

FOR SALE—small animal hospital in rapidly growing southern capital city. Established practice still growing. Priced at market value of real estate. Terms. Other interests necessitate move. Address "Box B 3," c/o JOURNAL of the AVMA.

EXCEPTIONAL OPPORTUNITY—entering partnership with friend. Can not let clients down so will sell thriving mixed practice in East very reasonable to conscientious veterinarian. Address "Box B 7," c/o JOURNAL of the AVMA.

FOR SALE—long-established mixed practice, home, hospital, equipment, 1 acre of land, in leading agricultural and growing cattle community in North Carolina. Annual gross \$18,000. Price \$17,000, one third down. Address "Box B 8," c/o JOURNAL of the AVMA.

SELL PRACTICE AND DRUGS—mixed practice, mostly hog or other large animal, netting \$1,200 monthly. In town of 1,200 population. Address "Box B 11," c/o JOURNAL of the AVMA.

FOR SALE—large, well-established mixed practice in upper New York State, including modern home and hospital for price of real estate. Address "Box B 14," c/o JOURNAL of the AVMA.

FOR SALE—lucrative mixed practice in Middle-West. Established over twenty-five years. Town of 50,000. Excellent opportunity for young man with

(Continued on p. 40)

## NOW YOU CAN OFFER

**UDDER  
INSURANCE**



**It's the**

**TAMM UDDER SUPPORT**

The continuing rise of replacement costs makes the prevention and care of udder troubles increasingly important! The Tamm Udder Support provides a positive method to eliminate calf-sucking, wire cuts, clipping on teats and other causes of injury.

It also aids in the care of udder congestion, caking, breakouts, bruises, etc. Application of hot epoxy salts, zinc oxide, penicillin solutions and other drugs is greatly facilitated by the Tamm Udder Support. Since the support is waterproof the treatment can be kept at the proper temperature for a long enough period to materially reduce swelling and induce rapid healing. After treatment the support can be left in place to hold the body heat and more effectively combat mastitis.

CONSTRUCTED of heavy waterproof canvas and 3 in. webbing. A snug and comfortable fit is assured by springs and adjustments at four points. Available in three sizes—small (cows 1000 lbs. or less), medium (1000 to 1400 lbs.), large (over 1400 lbs.).

Order today — \$15.00 retail. 30% professional discount. WRITE today for free literature and complete information!

**FRANKSVILLE SPECIALTY CO.**

Dept. V12 Franksville, Wis.



# DINOVEX

**...an estrogenic solution  
for the  
non-settling cow**

DINOVEX supplements ovarian estrogen production during estrus to aid conception in cows that come in heat but fail to settle with frequent services because of their insufficient estrogen production.

DINOVEX helps provide the necessary stimulation to the maturing follicle to proceed toward ovulation and corpus luteum formation.

Investigate DINOVEX—available through your veterinary supply house.

Write for literature giving more detailed information on DINOVEX.

#### Veterinary Division

**ORTHO PHARMACEUTICAL  
CORPORATION**

Raritan

New Jersey



#### Make Ear-Cropping Simple

The MacAllan Ear Cropping Form, affixed to the ear, provides an accurate pattern against which to cut with knife or razor blades. Form fits firmly, cannot move or slip when clamped into proper position.

Made of non-rusting, light, cast aluminum, highly polished, the MacAllan Ear Cropping Form will last a lifetime with minimum care. Simplicity of design and construction reduces possibility of breakage or mechanical failure.

Forms immediately available to provide distinctive markings of these breeds:

**Boxer**  
Price, postpaid \$15.00

**Boston Terrier**  
Price, postpaid \$15.00

**Great Dane**  
Price, postpaid \$15.00

**Dobberman**  
Price, postpaid \$15.00

**Set of above four**  
Price, postpaid \$50.00

Forms for other breeds made on special order.

These are all truly "championship" forms. They have been patterned after the ear-markings of dogs who have won top honors in show competition. Patents pending.

**Sold to  
Veterinarians Only**

**Send Check or Money Order**



**STEP 1**



**STEP 2**



**STEP 3**

**MACALLAN LABORATORIES**

Route No. 2, Box 420

Lansing, Michigan

## Notice to Contributors

*Journal of the AVMA*  
and the  
*American Journal of Veterinary  
Research*

**Exclusive Publication.**—Articles submitted for publication are accepted with the understanding that they are not submitted to other journals.

**Manuscripts.**—Manuscripts must be typewritten, double-spaced, and the original, not the carbon copy, submitted. One-inch margins should be allowed on the sides, with 2 in. at top and bottom. Articles should be concise and to the point. Short, simple sentences are clearer and more forceful than long, complex ones. Footnotes and bibliographies also should be typed double space and should be prepared in the following style: name of author, title of article, name of periodical with volume, month (day of month, if weekly), year, and page numbers.

**Illustrations.**—Photographs should be furnished in glossy prints, and of a size that will fit into the Journals with a minimum of reduction. Photomicrographs which cannot be reduced should be marked for cropping to 1-column or 2-column width. Drawings should be made clearly and accurately in India ink on white paper. Figures appearing on graphs or charts should be large enough to allow for reduction necessary for the chart or graph to fit on Journal pages. All illustrations should bear the name of the author on the back.

**Tables.**—Tables should be simple. Complex tables are not conducive to perusal. It is wiser to summarize complex material rather than to attempt to tabulate it.

**News.**—Secretaries of associations and readers are requested to send us announcements of meetings and news items.

**Anonymous Letters.**—Anonymous communications, of whatever nature or purpose, to the JOURNAL or to the Association will not be published or referred for consideration to any Association official or committee.

AMERICAN VETERINARY MEDICAL  
ASSOCIATION  
600 So. Michigan Avenue  
Chicago 5, Illinois

some experience. Will easily support two veterinarians. Possibilities must be seen to be appreciated. Address "Box B 17," c/o JOURNAL of the AVMA.

**FOR LEASE**—successful, growing small animal practice in suburb 2½ miles from New York City. Interesting proposition available to nondraftable veterinarian. Address Dr. H. Harmon, 18 Nursery Lane, Rye, N.Y.

**FOR SALE**—in San Francisco Bay area, fully equipped small animal hospital, established three years. Address "Box B 22," c/o JOURNAL of the AVMA.

### For Sale—Miscellaneous

**SOLID STAINLESS STEEL PANS**—in dozen lots \$1.25 each; in less than dozen lots \$1.75 each. F.O.B. Farmington, Mich. Address Dr. H. E. Viergutz, 32809 Grand River, Farmington, Mich.

### Miscellaneous

**PREGNANCY DIAGNOSIS**—in the mare from 45th to 150th day. Write for vials and mailing tubes. Price: \$7.00; two or more tests, \$6.00 each. **PREGNANCY DIAGNOSTIC LABORATORIES**, H. S. Lames, D.V.M., Dysart, Iowa.

### Books and Magazines

**Canine Genetics**—Judy's 3rd edition. Principles of Dog Breeding, \$3. Keep up on dogs—**Dog World**—\$3 one year; \$5 two years. Judy Publishing Co., 3323 Michigan Blvd., Chicago 16, Ill.

### For Sale—Artificial Insemination Supplies

**ARTIFICIAL INSEMINATION INSTRUMENTS**—Essential equipment, replacement parts and materials, designed and manufactured especially for artificial insemination. Prompt delivery. New catalog. Address: Breeder's Equipment Co., Flourtown, Pa.

NOW in convenient  
5 lb. cans

**VITAL**  
**COD LIVER OIL**

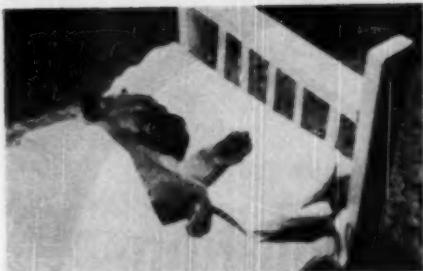
**PURE ICELANDIC**  
**COD LIVER OIL...**

Four A and D potencies available. This naturally finer oil with the sunshine color costs less to use than ordinary feeding oil in drums.

Distributed only by

**MIDLAND-WESTERN, Inc.**  
1904 TENNEY BUILDING • MADISON 3, WISCONSIN

The value of scientific discoveries, for practical application, must always clear the hurdle of lay judgment before general adoption.—H. Lothe, D.V.M., Wisconsin.



In convalescence, anorexia, malnutrition and general debility . . .

**NEO-HARVOGLOBIN**  
provides tonic amounts of the B vitamins, amino acids, carbohydrates, protein and iron . . . a completely balanced formula which furnishes nutritional food value in easily assimilable and palatable form.

Literature and Samples on Request

*The G. F. Harvey Company*

SARATOGA SPRINGS, N. Y.

DALLAS

LOS ANGELES

**Bind Your Copies**  
of the  
**Journal of the American Veterinary Medical Association**  
and the  
**American Journal of Veterinary Research**

Jour. of the Am. Vet. Am. Jour. of Vet.  
Med. Assoc.: Research:  
\$3.00 per volume  
in U. S. A. only

The publishers have effected an arrangement with one of America's foremost bookbinders by which subscribers can have their journals economically bound, to the publisher's specifications.

Your copies of the Journal of the American Veterinary Medical Association and the American Journal of Veterinary Research will be separately bound in the finest grade of washable buckram, with your name imprinted on the front cover. The color of the binding for the AVMA Journal is black, for the Research Journal, blue. Gold stamping.

*Ship journals parcel post. Bound volumes will be returned transportation prepaid when full remittance accompanies order.*

**The Book Shop Bindery**

Creators of Distinctive Bindings Since 1895  
308 West Randolph Street Chicago 6, Illinois

## Liability Insurance

for

### AVMA Members

The policy, which was developed especially for Association members two decades ago, provides expert defense against claims and suits arising out of the care and treatment of animals, and will pay, to the extent of the policy limits, all expenses and damages resulting from unfavorable verdicts.

In this suit-conscious age, such protection is not only wise but, as shown by the claim files, a practical necessity.

The insurance is placed with one of the largest and most reliable underwriters in the country.

Write at once for an application and descriptive folder, as the policy year begins on December 1.

### American Veterinary Medical Association

600 So. Michigan Ave., Chicago 5, Ill.

# Tri-Sulfa solution

assures prompt synergistic action

FOR LARGE  
AND SMALL  
ANIMAL  
MEDICATION

An excellent solution for intravenous or intraperitoneal injection. Tri-Sulfa Solution is a combination of 4% each of the Sodium salts of Sulfamerazine, Sulfathiazole, and Sulfadiazine. Immediately after the parenteral administration the sodium ions split off and the sulfonamides start acting at once upon micro-organisms in the circulating blood. Supplied in: Ctn. 6-250 cc. and 12-60 cc. bottles.

SUGGESTED DOSE: Horses or Cattle 20-30 cc. per cwt.; Swine or Dogs 4 cc. per 10 lb. body-weight.

#### *Other Sulfa Medications*

To maintain effective blood concentration following initial injections of Tri-Sulfa Solution administer **Sulfa Combined Tablets** (60 gr.), **Sulfa Combined Tablets** (240 gr.) **Sulfa Combined Hextabs** (7.5 gr.) or **Sulfa Combined Toytabs** (0.5 gr.); each contains equal amounts of Sulfamerazine, Sulfathiazole, and Sulfadiazine.



**HAVER-GLOVER LABORATORIES**

COAST TO COAST SERVICE HOME OFFICE-KANSAS CITY 10, MO.

# SEASON'S GREETINGS



# SULFA-KOL

For Bacterial or Coccidial Enteritis in All Species!

## New, Improved Formula For Calf Scours!

Each fluid ounce of Sulfa-Kol Emulsion (colored red) contains

Sulfaguanidine, 15 gr.

Sulfapyridine, 2 gr.

Sulfamerazine, 2 gr.

Sulfathiazole, 2 gr.

Kaolin, 120 gr.

Ethyl Ricinoleate, 4.7 gr.

Pectin, 6 gr.

Emulsified mineral oil base

4

effective  
sulfonamides  
for  
bacteriostasis

4

adjuvant  
detoxicants  
and  
protectives

# SULFA-KOL

JEN-SAL



Peroral Sulfa-Kol, a new and improved emulsion of selective, quadruple sulfonamides with adjuvants . . . means quick, effective control of calf scours as well as otherwise fatal bacterial or coccidial enteritis of foals and small animals.

In treatment of the calf scour pneumonia complex or bacterial enteritis of foals, give a 4 ounce initial dose of Sulfa-Kol (Jen-Sal), then 2 ounces twice daily to effect; dogs  $\frac{1}{2}$  ounce and cats,  $\frac{1}{4}$  ounce. Supplied in pint and gallon bottles.

a product of **JEN-SAL**

Box 167 Kansas City 10, Mo.